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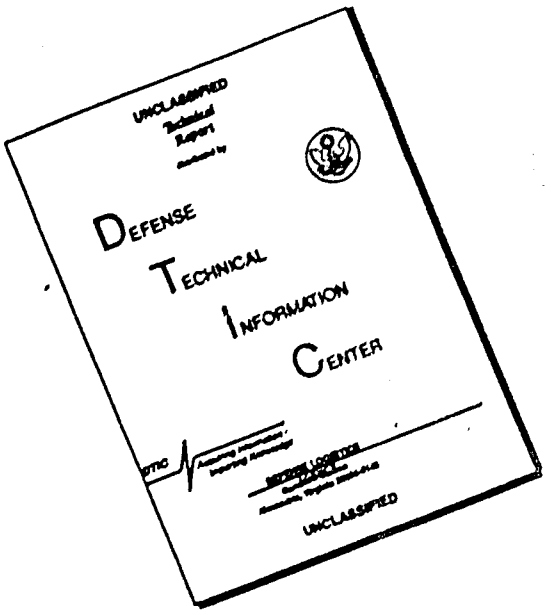

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U S ARMY NATICK LABORATORIES

TECHNICAL REPORT

TS-128

DESIGN TABLES FOR COTTON FABRICS

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CLOTHING & ORGANIC MATERIALS DIVISION

AUGUST 1964

NATICK, MASSACHUSETTS

AD- Div. 14:4 Accession No.

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U. S. Army Natick Laboratories, Natick, Mass. DESIGN TABLES FOR COTTON FABRICS: TABLES OF SOLUTIONS OF EQUATIONS FOR COVER FACTOR, BETA FACTOR AND MAXIMUM WEAVABILITY FOR COTTON FABRICS by Louis L. Weiner and Jesse E. Johnston, Jr., August 1964, 157 pp., illus. (Textile Series Report 128).

This report contains in tabular form the solutions of the equations for cover factor, beta factor, and maximum weavability for the entire practical range of cotton yarn counts, textures, and basic weave types--including the plain, oxford, 3- and 4-harness twills, and 5-harness sateen. The tables provide immediate solutions to those design parameters that are routinely used by the fabric designer and the textile engineer working on the geometry of textile structures. Included as appendixes are the text of the original report (by Love) which describes the derivation of the maximum weavability equations from Peirce's relationships, and also the computer program that was used for solving these equations for the practical range of textile variables.

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6. Weave
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Natick, Massachusetts

CLOTHING & ORGANIC MATERIALS DIVISION

Textile Series Report
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DESIGN TABLES FOR COTTON FABRICS: TABLES OF SOLUTIONS OF EQUATIONS FOR COVER FACTOR, BETA FACTOR AND MAXIMUM WEAVABILITY FOR COTTON FABRICS

Louis I. Weiner Jesse E. Johnston, Jr.

Materials Research Branch

Project Reference:
1K024401A113

August 1964

FOREWORD

The U.S. Army Natick Laboratories, as part of its program in textile development, has made a number of studies to characterize the geometry of textile fabrics. The purpose has been to facilitate fabric designing and the interpreting and predicting of the changes that occur in fabric geometry through shrinkage and wear.

Previous Textile Series Reports developed equations, nomographs and graphs to simplify the prediction of construction parameters and of maximum weavability fabrics. The tables in this report provide solutions to the equations previously developed, and thus eliminate the need for practically all intermediate computations, as well as the graphical techniques formerly used for obtaining the solutions to maximum weavability problems.

In making these tables available, we hope to stimulate the wider use of mathematical techniques in simplifying the designing of textile fabrics and to encourage further studies of the relationships between fabric geometry and performance.

Appreciation is expressed to the Computer Branch of the U.S. Army Natick Laboratories for the use of their GE 225 Computer and to Mr. David Gracia and Lt. George H. Haines, Jr., both of the Computer Branch, for writing the program for the solutions to the equations.

We wish to acknowledge especially the important contributions to Army studies of fabric geometry made by Mr. Louis Love of the Defense Supply Agency and Professor Stanley Backer of MIT, both of whom were formerly with the Quartermaster Research and Development Laboratories in Philadelphia, Pa., where much of the work in this field had its inception; to Dr. E. Van Painter of Johnson and Johnson; to Dr. Walter J. Hamburger and Dr. Milton M. Platt of the Fabric Research Laboratories; and to Professor Douglas P. Adams and the late Professor Edward R. Schwarz of MIT.

S. J. KENNEDY
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Scientific Director

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Colonel, QMC
Commanding

CONTENTS

CONTENTS (Cont'd)

ABSTRACT

This report contains in tabular form the solutions of the equations for cover factor, beta factor, and maximum weavability for the entire practical range of cotton yarn counts, textures, and basic weave types--including the plain, oxford, 3- and 4-harness twills, and 5-harness sateen. The tables provide immediate solutions to those design parameters that are routinely used by the fabric designer and the textile engineer working on the geometry of textile structures. Included as appendixes are the text of the original report (by Love) which describes the derivation of the maximum weavability equations from Peirce's relationships, and also the computer program that was used for solving these equations for the practical range of textile variables.

TABLES OF SOLUTIONS OF EQUATIONS FOR COVER FACTOR, BETA FACTOR AND MAXIMUM WEAVABILITY FOR COTTON FABRICS

1. Purpose and Scope

a.. Purpose

The tables in this report are presented to facilitate the designing of high-texture or maximum-weavability fabrics. Maximum-weavability fabrics are the largest class of functional fabrics used by industry and the military. Among many weaves they include: ducks, poplins, wind-resistant twills and sateens, airplane and balloon cloths, and linings. Most other commercial fabrics are designed to a certain percentage of maximum weavability and it is always of concern to the designer to know whether his fabric is practical in terms of the capacity of the loom to put in the necessary picks.

The purpose of these tables is to eliminate the need for practically all intermediate computations or graphical techniques previously used for obtaining the solutions to maximum weavability problems. The tables provide immediate solutions to those design parameters that are routinely used by the fabric designer and the textile engineer working on the geometry of textile structures.

b. Scope

This report contains in tabular form the solutions of the equations for cover factor, beta factor, and maximum weavability for the entire practical range of cotton yarn counts, textures and basic weave types.

The Maximum Weavability Table in this report provides solutions to the equations for all of the basic weaves over a cover factor range of from 10 to 32 inclusive at intervals of 1, and over a beta factor range of from 0.5 to 2.0 at intervals of 0.1. This table permits the determination of the maximum weavable constructions for oxford, plain, and 3-, 4-, and 5-harness weaves.

In addition, two tables are presented in order to eliminate the need for computing cover and beta factors: the Cover Factor Table and the Beta Factor Table. These tables provide the solutions to the equations of these parameters for fabric textures of from 11 to 200 yarns per inch and for yarn numbers of from 1/1 to 84/1 equivalent.

2. Theoretical Background and Previous Techniques

The findings of Peirce (5) have been considered basic in the design and development of fabric structures. The equations of Peirce, for the

plain weave, were published in graphical form by Painter (4), and also in nomographic form, by Backer, Adams and Schwarz (1). Finally Love extended Peirce's equations to weaves other than the plain, and developed a series of graphs to simplify the prediction of construction parameters of maximum weavability fabrics (3). This latter report, which describes the derivation of the maximum weavability equations from Peirce's equations, is reproduced as Appendix A. These equations are the basis of the Maximum Weavability Table of this report.

3. Organization of the Tables

a. Cover factor table

Table I("Cover factor in terms of yarn number and texture") provides solutions from the application of the standard and widely used cover factor equation:

$$K = \frac{TPI}{\sqrt{N}}$$

Where: K is either warp cover factor (K_1)
or filling cover factor (K_2)

TPI is threads (or yarns) per inch ["texture" in tables]

N is yarn count ["yarn number" in table]

Practically all textile engineers use this equation, which is basic to the understanding and use of geometric concepts in the design and mechanical manipulation of textile fabrics, as a measure of the relative tightness of the weave of fabrics.

In Table I textures begin at a high of 200 yarns per inch and are listed in decreasing amounts down to 11 yarns per inch; this takes 5 pages. Each sequence of 5 pages gives the cover factors for seven different yarn numbers. To encompass the total range of yarn numbers (from 84 to 1), twelve sequences of 5 pages each are required, or a total of 60 pages.

The textures and yarn numbers in the tables and the computed cover factors are spaced at sufficiently close intervals for most practical design problems; however, if increased precision is desired, fractional yarn numbers and textures may be found by conventional linear interpolation techniques.

b. Beta factor table

Table II ("Beta factor in terms of filling yarn number and warp yarn number") provides solutions from the application of the yarn balance (i.e., beta factor) equation.

$$\beta = \sqrt{\frac{N_1}{N_2}}$$

Where: β is beta factor (yarn balance)

N_1 is warp yarn count ["warp yarn number" in tables]

N_2 is filling yarn count ["filling yarn number" in tables]

While this equation, when used by itself, has less general applicability than the cover factor equation, it is an essential part of the maximum weavability equations solved in Table III.

In Table II warp yarn numbers begin at a high of 100 and are listed in decreasing amounts down to yarn number 1;this takes 3 pages. Each sequence of 3 pages gives the beta factors for seven different filling yarn numbers. To encompass the total range of filling yarn numbers, twelve sequences of 3 pages each are required, or a total of 36 pages.

As in the case of the cover factor table, the warp and filling yarn numbers are spaced sufficiently close for most practical design problems; however, linear interpolation may be used for fractional yarn numbers, if desired.

c. Maximum weavability table

Table III ("Maximum filling cover factor in terms of warp cover factor and beta factor") shows the maximum filling cover factor (K_2) that is theoretically obtainable for given warp cover factor and beta factor. The filling cover factors for the various weaves were obtained by the solutions of the following equations, the derivation of which is given in Appendix A.

PLAIN WEAVE
M = 1

$$\sqrt{1-\left[\frac{\epsilon}{(1+\beta)K_1}\right]^2}+\sqrt{1-\left[\frac{28\beta}{(1+\beta)K_2}\right]^2}=1$$

THREE HARNESS WEAVES
M = 1.5

$$\sqrt{1-\left[\frac{M\left(\frac{30.2}{K_1}-1\right)+1.08}{1.08(1+\beta)}\right]^2}+\sqrt{1-\left[\frac{\left(M\left(\frac{30.2}{K_2}-1\right)+1.08\right)\beta}{1.08(1+\beta)}\right]^2}=1$$

FOUR HARNESS WEAVES
M = 2.0

$$\sqrt{1-\left[\frac{M\left(\frac{31.4}{K_1}-1\right)+1.12}{1.12\ (1+\beta)}\right]^2}+\sqrt{1-\left[\frac{\left(M\left[\frac{31.4}{K_2}-1\right]+1.12\right)\beta}{1.12(1+\beta)}\right]^2}=1$$

FIVE HARNESS WEAVES
M = 2.5

$$\sqrt{1-\left[\frac{M\left(\frac{32.2}{K_1}-1\right)+1.15}{1.15\ (1+\beta)}\right]^2}+\sqrt{1-\left[\frac{\left(M\left[\frac{32.2}{K_2}-1\right]+1.15\right)\beta}{1.15\ (1+\beta)}\right]^2}=1$$

OXFORD WEAVE
$M_1 = 2.0$
$M_2 = 1.0$

$$\sqrt{1-\left[\frac{M_1\left(\frac{31.4}{K_1}-1\right)+1.12}{1.12(1+\beta)}\right]^2}+\sqrt{1-\left[\frac{28\beta}{(1+\beta)K_2}\right]^2}=1$$

M, or Weave Factor, in the above equations is: the number of threads per repeat of weave divided by the number of interlacings per repeat of weave.

In Table III warp cover factors range from 10 to 32, or from 13, 15 or 17 to 32, depending on the weave. For each of five weaves there are two pages of maximum filling cover factors covering beta factors from 0.5 to 2.0, making a total of 10 pages. The maximum filling cover factor values are given to three decimal places. While this is much beyond the precision required for textile design (for which one decimal place is adequate) it was a convenient point by which to program the computations. As in the case of the cover factor and beta factor tables, interpolation may be used for fractional values.

Table III may be read to determine beta or warp cover factors from the filling cover factor. When this is done, it is suggested that the excess decimal places be eliminated to facilitate interpolation. Most of the filling cover factor values given in the table are so close that interpolation may seldom be necessary. For relatively low warp cover factors, interpolation may be desirable. However, since the warp cover

factor is high for most practical textile structures, the need for interpolation usually does not arise.

4. Usefulness of tables

Most of the usefulness of this report will come from the application of Table III to solving maximum weavability problems.

Table III is presented primarily as a solution of the equation for filling cover factor, when warp cover factor and beta factor are known. (It can also be read for a solution when any two elements are given or required, to find the third.)

Perhaps the easiest way to visualize the relationship of these three elements of Table III and how they are obtained is by considering this tabulation:

Element of Table III	Obtainable from	If you have
Filling cover factor	Table I	F yarn number F texture
Warp cover factor	Table I	W yarn number W texture
Beta factor	Table II	W yarn number F yarn number

This tabulation will give some idea of the possibilities of using any yarn number or texture (as in the far right column above) to obtain two of the elements in the far left column (above), and thus to be able to enter Table III.

The textile designer normally has the four constructional factors (listed in the far right column) with which he works: warp texture, filling texture, warp yarn number and filling yarn number. If he knows three of the four fabric variables, it is always a challenge to the designer to calculate the fourth. For instance:

If both yarn numbers but only one texture are known, the other texture for maximum weavability cotton fabrics can be obtained from the table.

If only one yarn number and the yarn balance (beta factor) are known, either texture can be found from a knowledge of the other texture.

If both textures and only one yarn number are known, the other yarn number for maximum weavability can be obtained from the tables by a trial-and-error process.

If the cover factor in the warp direction is known, the corresponding cover factor in the filling direction for a given yarn balance (beta factor) can be obtained.

Or, given a particular construction, it is often necessary for the textile designer to find what is its percentage of maximum weavability. This percentage of maximum weavability can be obtained by using the table.

Also, given a particular construction, the textile designer can determine its practicality. That is, he can determine from the table whether or not it is weavable, without trial weavings.

Given a particular construction, the fabric designer can, by using this table, determine whether it can be tightened to any extent.

Finally, given certain filling parameters, such as yarn size and texture, it is possible to project certain combinations of warp sizes and textures.

b. Solutions for cover factor and beta factor

Tables I (cover factor) and II (beta factor) may be used without any computations to provide exact values for these two commonly used fabric geometry parameters. These solutions have wide applicability in many types of design problems involving cloth cover and weight, and in solving mechanical problems based on Peircian geometry.

5. Examples of use of tables

a. Using Cover Factor Table

Below are given some specific problems using Table I ("Cover factor in terms of yarn number and texture")

1) Given: ends and yarn number. To find: warp cover factor
Problem: A sateen has 129 ends of 31/1 yarn
What is the warp cover factor?

Solution:
In Table I, find the "yarn number" at top of column on page 83; for this problem it is 31
Texture is given under "texture" column at left; for this problem texture is 129
Column 31 and row 129 intersect at 23.169; this is the warp cover factor required.

2) Given: picks and yarn number. To find: filling cover factor

Problem: A poplin is woven with 80 picks of 40/2 cotton yarn What is the filling cover factor?

Solution:

First, since the tables are based on singles equivalent yarn number, convert 40/2 to 20/1

In Table I, find the "yarn number" at top of column on page 95; for this problem it is 20

"Texture" is given under the far left column; for this problem texture is 80

Column 20 and row 80 intersect at 17.889; this is the filling cover factor required

3) Given: warp yarn number, a desired warp cover factor. To find: ends required

Problem: It is desired to use a 72/2 warp yarn in a twill fabric to obtain a warp cover factor of approximately 26.0 How many ends per inch will be needed in the finished fabric?

Solution:

First, since the tables are based on singles equivalent yarn number, convert 72/2 to 36/1

In Table I, find the "yarn number" at top of column on page 77; for this problem it is 36

Move down under yarn number 36 until "cover factor" 26.00 is reached

By following along this row to the far left column a "texture" of 156 is found. That is, 156 ends per inch will be needed.

4) Given: ends and yarn numbers for 2 fabrics. To find: which cover factor is greater

Problem: Which fabric will provide a greater warp cover factor: an oxford with 120 ends of 16/1, or one with 125 ends of 17/1?

Solution:

The procedure is to find in Table I the cover factor for each fabric as in (1) above, and compare them.

To find the cover factor for first fabric, find "yarn number" column 16 on page 93; find "texture" (far left column) of 120; where column 16 and row 120 intersect we get a cover factor of 30.000

Similarly, for "yarn number" 17, the "texture" (far left column) of 125 gives (where they intersect) cover factor of 30.317

Thus the fabric with the 17/1 yarn has the greater cover factor

b. Using Beta Factor Table

Below are some typical problems using Table II ("Beta factor in terms of filling yarn number and warp yarn number")

1) Given: filling yarn number and warp yarn number. To find: beta factor

Problem: A sateen has a 23/1 yarn in the warp and a 12/1 yarn in the filling
What is the yarn balance (beta factor)?

Solution:
In Table II, find the "filling yarn number" at top of column on page 141; for this problem: 12
Find "warp yarn number" in far left column: 23
Column 12 and row 23 intersect at 1.384, which is beta factor.

2) Given: warp yarn number, desirable beta factor. To find: filling yarn number required

Problem: We desire a yarn balance (beta factor) of 1.3 in a crowfoot fabric using an 80/2 warp yarn
What size 2-ply yarn will be used for the filling?

Solution:
First (since tables are based on singles) convert 80/2 to 40/1
In Table II, "warp yarn number" 40 (far left column) occurs 12 times. Examine each row of values of 40 until a beta factor close to 1.3 is found
For "warp yarn number" 40, a beta factor of 1.291 occurs on page134 under (top column heading) "filling yarn number" 24
Reconvert this filling yarn number from 24/1 to 48/2

3) Given: For Fabric X: beta factor, warp yarn number and ends; for Fabric Y: beta factor and warp yarn number
To find: how many ends must be put into Fabric Y to obtain same warp cover factor as Fabric X

Problem: Two plain-weave fabrics are available which have yarn balances (beta factors) of 1.0 (Fabric X) and 1.1 (Fabric Y). If the warp yarns in each fabric are 30.0 and Fabric X has 120 ends in the warp, how many ends must be put into the Fabric Y to obtain the same warp cover factor?

Solution:
Step 1. Find filling yarn numbers in Table II for the two fabrics, as in b (2) above.
Look up the various rows for "warp yarn number" 30 (far left column in Table II),until you find the beta factor value nearest to 1.0 (this is found on page 132 to be 30), and nearest to 1.1 (this is found on page 135 to be 25).
Step 2. Find "warp cover factors" in Table I, for Fabric X, as in a (1). This is the intersection of "yarn number" 30, given "texture" of 120, or 21.909. (page 83).
Step 3. Find number of ends required to provide this same cover factor (21.9) for Fabric Y (beta factor 1.1)
Step 1 gave filling yarn number for Fabric Y as 25.
In Table I find column 25 "filling yarn number", follow down to cover factor nearest to 21.909, which is 22.000 (page 89).

Move left along this row to find "texture" at far left: 110
Therefore: 110 ends in the fabric having a beta factor of 1.1 will provide the same cover as 120 ends in the fabric having a beta factor of 1.0

c. Using Maximum Weavability Table

Below are some typical problems using Table III("Maximum filling cover factor in terms of warp cover factor and beta factor"). It is recommended that the engineer familiarize himself with the use of Tables I and II before attempting to use Table III. The Cover Factor Table and the Beta Factor Table must be used each time Table III is used.

1) Given: filling yarn number, warp yarn number, warp texture and weave
To find: number of picks for maximum weavable construction
Problem: What are the maximum number of picks of yarn number 19/1 that can be woven into a poplin having 106 ends of 40/2 yarn?
Solution:
Step 1. Find warp cover factor, as in example a (1) above
First convert 40/2 to 20/1 (tables are for singles)
In Table I, the intersection of "yarn number" column 20 (top) and "texture" 106 (far left) given "warp cover factor" of 23.702 (page 94)
Step 2. Find beta factor for yarns, as in example b (1) above
In Table II, the intersection of column 19 ("Filling yarn number" at top) and row 20 ("Warp yarn number", far left) gives beta factor of 1.026 (page 138)
Step 3. Find maximum filling cover factor
In Table III-A, intersection of "beta factor" (top column), of 1.0 (closest value to 1.026) and row 24 "warp cover factor" (far left) gives "maximum filling cover factor" of 14.254* (page 148)
Step 4. Find number of picks that would provide a cover factor of 14.3 when 19/1 yarns are used in filling.
In Table I, under column 19 ("yarn number", at top) "cover factor" of 14.224 is nearest. (page 95). Move along row to left to find required filling "texture" under texture column: it is 62.

* If it is desired to obtain increased precision, interpolation may be used with the fractional beta factor and the fractional cover factor obtained from Tables I and II, respectively. In this particular problem, the interpolation would be of no value with respect to warp cover factor since, at a warp cover factor of 23, the equivalent filling cover factor would be 14.309, which even at three significant figures is still the 14.3 obtained above. Interpolation for the beta value of 1.026 would increase the maximum filling cover factor to 14.416, or 14.4 in three significant figures. Accordingly, it is suggested that interpolation be ignored for first approximations.

Thus: the maximum number of picks that could be used in the initial fabric is 62.*

2) To determine percentage of maximum weavability

Problem: A Type III wind-resistant oxford has a specified texture of 136 by 46. If a 40/2 warp yarn is available - what percent of maximum weavability will be obtained if we use a 12/1 filling?

Solution:

First convert 40/2 to 20/1

Step 1: Find warp cover factor, as in Example a (1)
In Table I, intersection of yarn number 20 (top) and texture 136 (far left) gives a warp cover factor of 30.411 (page 93)

Step 2. Find filling cover factor, as in example a (2)
In Table I, intersection of yarn number 12 and texture 46 gives a filling cover factor of 13.279 (page 100)

Step 3. Find beta factor as in example b (1)
In Table II, intersection of filling yarn number 12 and warp yarn number 20 gives beta factor of 1.291 (page 141)

Step 4. Find maximum possible filling cover factor
In Table III-E, at intersection of beta factor 1.3 (top) and warp cover factor (far left), 30: 15.937 (page 157)

Step 5. To obtain percent maximum weavability:
Divide actual filling cover factor (13.3) by maximum filling cover factor (15.9) to obtain 83.6 as percent of maximum weavability.

3) To determine weavability or practicality of a given loom construction

Problem: Is a sateen fabric weavable if it has 129 ends of 31/1 yarn and 94 picks of 14/1?

Solution:

Step 1. Find warp cover and filling cover factors
In Table I, intersection of yarn number 31 (top) and texture 129 (far left) gives warp cover factor of 23.169
Similarly, intersection of yarn number 14 (top) and texture 94 (left) gives filling cover factor of 25.123

Step 2. Find beta factor
In Table II intersection of filling yarn number 14 (top) and warp yarn number 31 (far left) gives beta factor of 1.488

Step 3. Find maximum filling cover factor
In Table III-D intersection of beta factor 1.5 (top) and warp cover factor 23 (far left) gives maximum filling cover factor of 25.514
Since the actual filling cover factor is less than the

* If the interpolated value of 14.416 has been used, the maximum number of picks would be 63. This difference is considered to be non-significant for the order of precision characteristic of the basic equations upon which these tables are based.

theoretical maximum, the fabric should be weavable.

Step 4. Find the maximum number of picks for 14/1 yarn

In Table I under 14 yarn number, it is indicated that for cover factor 25.5, 95 picks are equivalent.

Thus, on a theoretical basis, it should be possible to add an additional pick to the fabric.

6. Basic assumptions and limitations of the tables

a. Basic assumptions

Two assumptions were made in developing the equations that led to the formulation of these tables:

1. The yarn compression in a fabric woven to maximum tightness produces a change in the shape of the yarn section but does not alter the fiber-packing density.

2. Complete flattening takes place in that half of the yarn that is in contact with a neighboring yarn under a single float (see Appendix A.)

For all practical purposes, these assumptions produce only minimal errors and thus the tables are completely suitable for first-order approximations in fabric design. For a series of 13 ducks analyzed by Dickson (2) the average deviation between the filling limits computed from the equations that form the basis for these tables and those observed in actual fabrics was only 1.18 cover factor units. Of the 13 ducks, 12 actually exceeded the theoretical limit, which means that, as a first approximation in design, only 1 of the 13 fabrics would have been impractical to weave. This fabric was only 0.3 cover factor units higher than that actually obtained in the loom.

b. Limitations of the Tables

In using the tables, one must keep in mind the following limitations:

1. The yarn numbers given are applicable to the conventional indirect yarn numbering system used for cotton, woolens and worsteds. The tables are designed primarily for cotton fabrics. For fabrics other than cotton, the maximum weavability table (Table III) cannot be used without some modification. For those now working with fibers other than cotton, the "all-fiber" computations worked out by Dickson (2) provide a means of converting data on nylon, for example, to cotton counts and (after correcting for density), thus using the tables in this report for design studies involving other fibers. It is hoped that similar sets of tables will later be developed for use with woolen, worsted, and man-made fiber systems.

2. The yarn numbers in the tables are singles equivalent. If, for example, a 20/2 or 60/3 yarn number is involved, it must first be converted to singles equivalent. The 20/2 would be a 10/1, and the 10 column of the table would be used; the 60/3 would become a 20/1, and the 20 column of the table used.

3. It will be noted that the cover factor values of some pages go as high as an unrealistic 75. While such high values are impossible, they were retained to facilitate the programming of the computer, which printed the "master" tables reproduced in this report.

4. In using the tables, it is suggested that interpolation be avoided on the first attempt to arrive at a design. It is usually easier to locate the values for parameters just below and above the exact value and then determine whether the difference warrants any further precision. In most problems it is only a question between a single pick or end or a fractional yarn count; the overall validity of the equations, considering the assumptions that had to be made in deriving them, is no better than this.

5. It must be stressed again that, while the tables provide approximations which are extremely useful in obtaining orders of magnitude for design problems, the actual loom conditions as well as other variables will determine the exact final values.

7. References

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2. Dickson, J.F., Practical loom experience on weavability limits Textile Res J, 24:1083 (1954)

3. Love, Louis Graphical relationships in cloth geometry for plain, twill and sateen weaves Textile Series Report 90, QM R&D Command, Natick, Mass., Sept 1955 [Reprinted as Appendix A of this report]

4. Painter, E.V., Graphical analysis of fabric geometry, Part VIII of: Mechanics of elastic performance of textile materials, Textile Res J 22:556 (1952)

5. Peirce, F.T. The geometry of cloth structure, J Textile Inst 28:T45 (1937)

APPENDIX A

GRAPHICAL RELATIONSHIPS IN CLOTH GEOMETRY FOR PLAIN, TWILL, AND SATEEN WEAVES

by Louis Love

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GRAPHICAL RELATIONSHIPS IN CLOTH GEOMETRY FOR PLAIN, TWILL, AND SATEEN WEAVES

1. Introduction

The subject of fabric geometry was formalized in the comprehensive mathematical analyses of F. T. Peirce * in 1937. Surprisingly little use has been made of Peirce's work in the practical field of cloth design during the past 17 years. This delay has been due in part to the mathematical complexities inherent in the relationships between such cloth parameters as threads per inch, yarn count, and crimp. Peirce attempted to alleviate this condition by furnishing extensive tables relating the variables of fabric construction and by proposing both models and graphs to shorten the computations necessary for the design of new materials. Recently extensive graphical methods have been proposed ** with a view to eliminating extended calculations and lengthy interpolations from Peirce's tables. A parallel set of graphical techniques has been developed in the Textile Laboratories of the Quartermaster Corps and has found considerable use during the past five years. It is the purpose of this paper to make these additional useful graphical tools available to the practicing fabric designer.

In the course of applying Peirce's theories to the design of various fabrics, it was found both necessary and convenient to extend the range of the diagrams presented for plain weave fabrics and to evaluate their functions in additional weaves. Although Peirce mentioned the effect of weave on maximum setting, the importance of this factor on the physical behavior of a fabric indicated a need for further development. Accordingly, an extensive series of calculations was made in order to provide a graphical presentation of the effect of short float weaves on the tightness of a fabric.

2. Geometry of the plain weave

The first case considered was the plain weave in which the ratio (β) of filling yarn diameter to warp yarn diameter varied significantly. The practical question

*In "The geometry of cloth structure," Journal Textile Institute 28, T45, (1937)
**By E. V. Painter in "Mechanics of elastic performance of textile materials, VIII Graphical analysis of fabric geometry" in Textile Research Journal 22, 153 (1952).

asked in the design of many military fabrics in the past 10 years has been, "If the warp cover factor * is prescribed for reasons of water or wind resistance, what is the maximum number of picks weavable in such a fabric?" Peirce has indicated that for closest plain weaves

$$\sqrt{1 - \left(\frac{p_1}{D}\right)^2} + \sqrt{1 - \left(\frac{p_2}{D}\right)^2} = 1 , \qquad (1)$$

and that

$$K_1 = \frac{28}{1 + \beta} \div \frac{p_1}{D}; \qquad (2)$$

$$K_2 = \frac{28\beta}{1 + \beta} \div \frac{p_2}{D}, \qquad (3)$$

where p_1, p_2 are the spacings in inches between warp and filling threads; K_1, K_2 are warp and filling cover factors; β is the ratio of filling to warp diameters; and D is the sum of warp and filling yarn diameters in inches. By combining the above equations one obtains the expression:

$$\sqrt{1 - \left[\frac{28}{(1 + \beta) K_1}\right]^2} + \sqrt{1 - \left[\frac{28\beta}{(1 + \beta) K_2}\right]^2} = 1 , \qquad (4)$$

*Defined by Peirce (for the inverse yarn-numbering system) as the ratio of the threads per inch to the square root of the yarn number.

indicative of the relationship between K_1, K_2, and β for fabrics jammed in both directions. It is now evident that the answer to the above stated question may be determined uniquely, provided that the value β is specified. Peirce took the case of $\beta = 1$ and plotted K_1 versus K_2 for the closest plain weave constructions. It has been found necessary in many Quartermaster studies to work with β values differing significantly from $\beta = 1$ and so an extension of Peirce's graph has been made. This extension is presented in Figure 1. *

A corollary to the use of Figure 1, indicated above, is the quick graphical answer to the question, "What is the relative tightness in warp and filling direction in a given fabric?" Warp tightness may be expressed as the ratio of actual warp cover factor to maximum warp cover factor, as determined from Figure 1, when the filling cover factor and the ratio of yarn diameters are specified. Likewise the relative filling tightness is expressed as the ratio of actual filling cover factor to maximum filling cover factor as determined from Figure 1. The overall value of tightness, useful in studies of the mechanical properties of fabrics, is expressed as:

$$\text{tightness} = \frac{\text{sum of actual warp and filling cover factors}}{\text{sum of theoretically maximum cover factors}} \qquad (5)$$

The maximum cover factors for other yarns in addition to cotton are given for the reader's convenience in the legend of Figure 1 (and also of Figures 2 to 5 inclusive). These cover factors have been calculated from the specific volume of the material, v, based on Peirce's formula

$$v = 1.021 y N d^2 \quad , \qquad (6)$$

where N is the number of units (hanks) of length; y, yards in a pound of yarn of diameter d, in inches. Peirce assumed a constant value of 1.1 for the apparent

*Figures are at the end of this report

specific volume of the cotton yarn under the compression of the weave structure. So that comparisons can be made among the various fibers, v is here replaced by the inverse product of the specific gravity of the fiber (ψ) and the yarn packing coefficient (ϕ). Thus for the inverse yarn numbering system equation (6) becomes:

$$\frac{1}{d} = \sqrt{1.021 y N_i \psi \phi} \quad , \tag{7}$$

and for the direct system

$$\frac{1}{d} = \sqrt{1.021 y / N_d \psi \phi} \quad , \tag{8}$$

where d is again expressed in inches while y is expressed in yards per pound. For the direct denier system y = 4,464,528 yards per pound. The pack coefficient, ϕ, has been estimated to be approximately 0.6.

3. Geometry of other weaves

When other than plain weaves are studied the quantities p_1 and p_2 of equation (1) apply to the local spacings between yarns at the interlacings of warp and filling. The local spacings between warp and filling at points of no interlacing, that is, at float locations, will in general be less than the local spacing at points of interlacing. Since quantities K_1 and K_2 represent average cover factors, relationships (2) and (3) must be altered to account for the weave factor and the degree of yarn flattening and/or overriding which takes place in other than plain weaves. Weave factor, M, is defined as:

$$M = \frac{\text{Number of threads per repeat of weave}}{\text{Number of interlacings per repeat of weave}} \quad . \tag{9}$$

Thus, M = 1 characterizes the plain weave; M = 1.5, a 2/1 twill; M = 2, a 2/2 twill, a 3/1 twill, a 4-harness satin or the warp yarns of an oxford weave; M = 2.5 a 3/2 twill, a 4/1 twill, or a 5-harness satin. If the degree of flattening is over-

looked for the moment, the local spacing between warp yarns at the interlacing of warp and filling can be shown to equal

$$p_1 = Mp_{a1} - (M - 1)d_{oa1} \quad , \tag{10}$$

where d_{oa1} is the original average lateral diameter of the warp yarn. If lateral compression is now considered, the expression for the local spacing, p_1, is somewhat modified by the introduction of d_{ca1}, the new average lateral diameter of the warp yarns. The new diameter d_{ca1} averages both compressed and uncompressed lateral diameters pictured below for several different weave repeats.

$$p_1 = M(p_{a1} - d_{ca1}) + d_{oa1} \quad . \tag{11}$$

When yarns of average twist or softness are woven in fabrics of other than plain weave, it has often been observed that maximum weavable cover factors exceed the value 28. The reason for this becomes evident in microscopic examination of fabric cross sections which show considerable lateral compression in yarns beneath the weave floats. The extent of this compression will, of course, vary with the twist of the yarn, the fiber cross sections, and the actual transverse compression between yarns. For purposes of computation we may assume (1) that the yarn compression in a fabric woven to maximum tightness produces a change in the shape of the yarn section, but does not alter the fiber packing density; and (2) that complete flattening takes place in that half of the yarn which contacts a neighboring yarn under a single float, i. e., that the original semicircle of the yarn half section becomes a rectangle after compression. This definition of beneath-float compression depicted in the diagram satisfies the condition of actual fabric geometry observed in numerous practical instances. Since fiber packing densities are unaltered during compression, it follows that the lateral half width of the compressed yarn changes from $d/2$ to $\pi d/8$, while the vertical dimension remains unchanged. As seen in A and B of the diagram, the lateral width of a yarn flattened on one side only becomes $d/2\,(1 + \pi/4)$,

while the entire lateral width of a yarn flattened on both sides is reduced from d to $\pi d/4$.

In the case of a filling float passing over two warp yarns, the horizontal width of all warp yarns per repeat is seen in A of the diagram to be $2.78\ d_{oa_1}$ where d_{oa_1} is the average diameter of the original yarns, subscript a being the average condition computed for the weave repeat, subscript o the original uncompressed state and subscript 1 indicating warp. The average compressed warp diameter calculated for the repeat of the 2/1 weave is $2.78\ d_{oa_1}/3$. The warp cover factor is by definition,

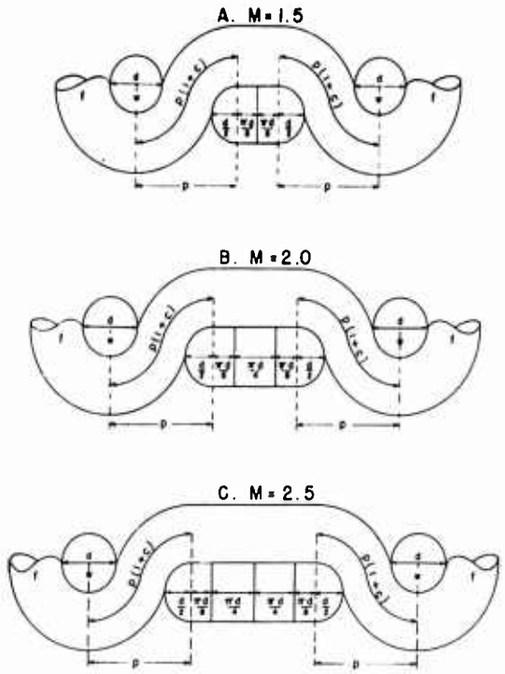


DIAGRAM: YARN COMPRESSION BETWEEN THE FLOAT.

$$K_1 = \frac{\text{Threads per inch}}{\sqrt{\text{Warp count}}} = \frac{\text{TPI}}{\sqrt{N_1}} \qquad (12)$$

Peirce has shown in reference mentioned at the beginning of this report, that for cotton yarns under compression

$$d = \frac{1}{28\sqrt{N}} \quad . \qquad (13)$$

The maximum average warp cover factor will occur when adjacent ends are in contact throughout the repeat and this condition is observed when the filling crimp is reduced to zero and the average spacing between ends just equals the average

compressed warp diameters.

$$K_{a1}\,(\text{máx.}) = \frac{TPI_{a1}}{\sqrt{N_{a1}}} = \frac{28\,d_{oa1}}{p_{a1}} = \frac{28\,d_{oa1}}{d_{ca1}}\ , \tag{14}$$

and since

$$d_{ca1} = (2.78/3)\,d_{oa1} = 0.93\,d_{oa1}\ , \tag{15}$$

$$K_{a1}\,(\text{max.}) = \frac{(3)\,(28)\,d_{oa1}}{2.78\,d_{oa1}} = 30.2\ . \tag{16}$$

We can now express p_1, the local warp spacing in terms of the fabric scale unit, D, the sum of vertical diameters in warp and filling. Recall that

$$D = d_{oa1} + d_{oa2} = d_{oa1}\,(1 + \beta)\ ; \tag{17}$$

from equation (15)

$$D = 1.08\,d_{ca1}\,(1 + \beta)\ , \tag{18}$$

whence

$$\frac{p_1}{D} = \frac{M\,(p_{a1} - d_{ca1}) + d_{oa1}}{1.08\,d_{ca1}\,(1 + \beta)}\ , \tag{19}$$

$$\frac{p_1}{D} = M\,\frac{\left(\frac{30.2}{K_{a1}} - 1\right) + 1.08}{1.08\,(1 + \beta)} \tag{20}$$

since from equation (14)

$$K_{a1} = \frac{28\,d_{oa1}}{P_{a1}} = \frac{28\,(1.08)\,d_{ca1}}{P_{a1}} = \frac{30.2\,d_{ca1}}{P_{a1}}\ . \tag{21}$$

Corresponding to equation (20) we have

$$\frac{P_2}{D} = \frac{\left[M \left(\frac{30.2}{K_{a2}} - 1 \right) + 1.08 \right] \beta}{1.08 (1 + \beta)} \qquad (22)$$

Substituting equations (20) and (22) in equation (1), one arrives at

$$\sqrt{1 - \left[\frac{M \left(\frac{30.2}{K_{a1}} - 1 \right) + 1.08}{1.08 (1 + \beta)} \right]^2} + \sqrt{1 - \left[\frac{\left(M \left[\frac{30.2}{K_{a2}} - 1 \right] + 1.08 \right) \beta}{1.08 (1 + \beta)} \right]^2} = 1. \qquad (23)$$

Equation (23) serves as the principal basis for construction of Figure 2 in which the relationship between K_{a1} and K_{a2} and β is presented graphically. Comparison of Figures 2 and 1 for given values of warp cover factor and β shows the filling packing limit for the twill weave (M = 1.5) to be much higher than for the plain weave. Similarly, it can be shown that for given values of K_{a1}, K_{a2}, and β the relative tightness one obtains in a plain weave is much higher than that in a twill weave. These qualitative facts are known to the textile technologist. The value of the graphs lies in the quantitative values which may now be readily determined.

In the case of a 3/1 (or a 2/2) twill, i. e., when M = 2.0, the central yarns beneath the float will be compressed to the width $\pi d/4$ as seen in B of the diagram. The average compressed diameter now becomes

$$d_{ca1} = 3.57 d_{oa1}/4 = 0.89 d_{oa1} , \qquad (24)$$

or

$$d_{oa1} = 1.12 d_{ca1} . \qquad (25)$$

It follows that

$$K_{a1} = \frac{TPI}{\sqrt{N}} = \frac{28 d_{oa1}}{P_{a1}} = \frac{31.4 d_{ca1}}{P_{a1}} , \qquad (26)$$

whence

$$\frac{P_1}{D} = \frac{M\left(\frac{31.4}{K_1} - 1\right) + 1.12}{1.12\,(1+\beta)} \quad ; \tag{27}$$

$$\frac{P_2}{D} = \frac{\left[M\left(\frac{31.4}{K_2} - 1\right) + 1.12\right]\beta}{1.12\,(1+\beta)} \quad . \tag{28}$$

From equations (27) and (28) the relationship corresponding to equation (23) leads to the graphical presentation of Figure 3 for 3/1 or 2/2 fabrics, i. e., M = 2.0. In the cases where M = 2.5 we may have either a 4/1 or a 3/2 weave. From C of the diagram the average compressed diameter for M = 2.5 is seen to be:

$$d_{ca1} = 0.87 d_{oa1} \tag{29}$$

or

$$d_{oa1} = 1.15 d_{ca1} \quad , \tag{30}$$

whence

$$K_{a1} = \frac{28(1.15)d_{ca1}}{P_{a1}} = \frac{32.2 d_{ca1}}{P_{a1}} \tag{31}$$

and

$$\frac{P_1}{D} = \frac{M\left(\frac{32.2}{K_1} - 1\right) + 1.15}{1.15\,(1+\beta)} \tag{32}$$

$$\frac{P_2}{D} = \frac{\left[M\left(\frac{32.2}{K_2} - 1\right) + 1.15\right]\beta}{1.15\,(1+\beta)} \tag{33}$$

Substitution of equations (32) and (33) in equation (1) leads to the geometric relationship between K_{a_1} and K_{a_2} for maximum weavable fabrics of a 4/1 or 3/2 twill construction (including sateens). This function is plotted in Figure 4. Again, comparison of Figures 2, 3 and 4 with the curves relating K_1 and K_2 for the plain weave (Figure 1) reveals that increasingly greater filling packing limits (for any fixed warp cover factor) occur at higher weave factors. Conversely, if filling covers are arbitrarily fixed, greater warp packing is possible at higher weave factors. Finally, when β, K_1, and K_2 are specified, the relative tightness of a given weave decreases as M increases.

There is little point in extending the indicated modifications of equations (2) and (3) to the weave factors exceeding $M = 2.5$ since it is unlikely that the simple geometric assumptions indicated in the diagram are met for floats longer than 4-cross yarns. Indeed, in applying the relationships presented in Figure 4 for the weave factor 2.5, the technologist must insure compliance of the actual structure with the geometric assumption of lateral compression.

To make the graphical solutions outlined above generally applicable, we must include a sample of those constructions which possess different weave factors in the warp and filling directions. The most common material of this category is the oxford weave in which two warp yarns interlace as one in an otherwise plain weave, resulting in weave factors, $M_1 = 2.0$ and $M_2 = 1.0$. To obtain a relationship between K_1, K_2, and β for an oxford weave one must substitute equations (27) and (3) for p_1 and p_2 respectively in equation (1). The result of this substitution is plotted in Figure 5.

This discussion of fabric geometry thus far has been concerned with the projected cover of warp and filling yarns and with the relative tightness of each yarn system. Cover factors, it has been pointed out, are of primary interest in studies of the permeability of fabrics to air and water. Tightness factors, on the other hand, relate to a wide variety of mechanical fabric properties including wear resistance, flexibility, drape, and dimensional stability. Note, however, that cover

and tightness factors pertain principally to the two-dimensional structure of the fabric. To round out the consideration of fabric properties, it is essential to deal with the third fabric dimension, that of thickness, or "wave height" of the yarn systems. Peirce has pointed out that the thickness of a fabric equals the sum of the wave height and diameter of warp or filling yarns, whichever sum is larger. The thickness of fabric structures is directly related to their insulating qualities and their cushioning or softness characteristics. On the other hand, the difference between the wave height and diameter sum for warp and filling systems determines the absolute projection of one yarn system above the other at the fabric surface. This projection significantly influences the appearance and the wearing qualities of the fabric.

Peirce has shown the approximate relationship between wave height, h, the fractional crimp, c, and the yarn spacings, p,

$$h_1 = 1.36\, p_2 \sqrt{c_1} \quad , \tag{34}$$

to hold over a wide range of fabric constructions. It must be noted, however, that the values of crimp and thread spacings in equation (34) apply to the plain weave or to the unit cell of the twill weave where interlacing takes place. Peirce plotted equation (34) in terms of h_1/D and p_2/D, as illustrated in the lower left hand corner of Figure 6 (the radiating lines). The curve at the extreme left represents the condition of maximum weavability, and is plotted from the requirement

$$\cos \theta_1 + \cos \theta_2 = 1 \quad , \tag{35}$$

where θ is the maximum inclination of a given yarn to the fiber plane. Recall the additional requirement for jamming in both warp and filling direction, i. e.,

$$h_1/D = \cos \Delta_1 \quad . \tag{36}$$

and

$$\frac{p_2}{D} = \sin \Delta_2 = \sqrt{1 - \cos^2 \Delta_2} \quad , \tag{37}$$

where Δ_1 is the acute angle formed when a line perpendicular to the plane of the fabric intersects a line joining the centers of two warp yarns separated by a filling yarn and Δ_2 is the same angle for the opposite set of yarns. These angles

are quantitatively identical to Peirce's θ_2 and θ_1 respectively (equation 35). Moreover, if one considers the condition of maximum weavability, it can be shown that the arcs described by the opposing threads of the unit cell (see diagram) provide crimp values more accurately represented on the curve of maximum weavability by

$$c_1 = \frac{L_1/D}{p_2/D} - 1 = \frac{\Delta_2 \text{ radians}}{\sin \Delta_2} - 1 \qquad (38)$$

than by equation (34). Crimp values plotted from (34) and (38) are combined in Figure 6 to form almost straight lines.

To extend the relationships between h_1 and p_2 to twill weaves, it is necessary to employ C_1 (pertaining to the entire twill fabric) as a variable, not simply c_1 which pertains to the interlacing unit cell. This modification is essential since the weave designer customarily varies C_1 by appropriately setting his reed width, warp take-ups and subsequent tentering widths. C_1 for the entire fabric is defined as the excess of actual length of the yarn axis as it lies in the fabric, over its length as projected onto the horizontal plane. If one takes a filling section corresponding to the warp cross sectional view of A of the diagram, it can be shown that the projected length of the warp yarn, L_p, in a 2/1 twill is

$$L_{p1} = 2p_2 + 0.785d_2 \ , \qquad (39)$$

while the actual length L_t is

$$L_{t1} = 2p_2 (1 + c) + 0.785d_2 \ , \qquad (40)$$

whence the fractional warp crimp for the entire weave is

$$C_1 = \frac{2p_2c_1}{2p_2 + 0.785d_2} \ , \qquad (41)$$

or

$$C_1 = \frac{2\,(p_2/D)\,c_1}{2\,(p_2/D) + [0.785\,\beta/(1+\beta)]}, \qquad (42)$$

since

$$D = d_1 + d_2 = d_2\left(\frac{1}{\beta} + 1\right) = d_2\left[\frac{(1+\beta)}{\beta}\right]. \qquad (43)$$

It follows from the above derivation that equation (42) relates C_1 to c_1 under conditions of maximum weavability and therefore the value of p_2/D in equation (42) must be obtained from equation (22). However, when moderately tight 2/1 fabrics are dealt with, equation (42) still holds with reasonable accuracy provided the yarns beneath each float are in contact with one another. In such fabrics the yarns are no longer compressed and the factor 0.785 in equation (42) is replaced by unity, and

$$C_1 = \frac{2\,(p_2/D)\,c_1}{2\,(p_2/D) + [\beta/(1+\beta)]}. \qquad (44)$$

In open fabrics the crimp values (both for the plain weave unit cell and for the 2/1 twill fabric as a whole) will be small. The form of equation (42) indicates the C_1 will always be smaller than c_1; i. e., c_1 may be considered to be the maximum limit of C_1. In Figure 6, the radiating c_1 lines have been relabeled with the appropriate values of C_1 calculated from equation (42) for 3/1 constructions of maximum tightness and for β's of 0.5, 1, and 2. In this way a graphical relationship is established among h_1/D, p_2/D, and C_1 with greatest accuracy in the region of maximum weavability.

Following the procedure described above we may use the geometric assumptions of B of the diagram (reversing subscripts 1 and 2 so that the view given will represent a section at right angles to that of the figure) to deduce the relationship

$$C_1 = \frac{(p_2/D)\ c_1}{(p_2/D) + [0.785\,\beta/(1+\beta)]} \qquad (45)$$

for the weave factor M = 2.0, i. e., for 3/1 or 2/2 weaves. Cloth crimps based on equation (45) have been calculated for fabrics of maximum tightness at β values of 0.5, 1 and 2 and these are indicated as secondary labels on the radiating lines of Figure 6. Finally, the filling section corresponding to the view shown in C of the diagram furnished the geometric constants leading to the relationship

$$C_1 = \frac{2\,(p_2/D)\,c_1}{2\,(p_2/D) + [2.355\,\beta/(1+\beta)]} \qquad (46)$$

for 4/1 or 3/2 fabrics corresponding to a weave factor M = 2.5. Values of C_1 from equation (46) are likewise indicated in Figure 6 for M = 2.5 and β's of 0.5,1 and 2.

It should be noted that equations (42), (45), and (46) deal with total warp crimp. To calculate filling crimp, these same equations may be used, provided the β over the $(1 + \beta)$ is eliminated. A simpler method of determining filling crimp for the fabric from equations(42), (45), and (46) is to use β' instead of β, where β' is the reciprocal of β. This device permits use of Figure 6 for determination of <u>both</u> warp and filling crimps necessary in a wide range of weaves to achieve desired values of wave height and thread spacings.

LEGEND AND RELATED TABLES FOR FIGURES 1, 2, 3, 4, 5, 6

Curves Represent Theoretical Maximum Weavability In Cotton Numbering System

K_1 = Warp Cover Factor
K_2 = Filling Cover Factor
β = Ratio of Yarn Diameters

Maximum Cover Factors of Different Yarns and Conversion Constants from Cotton Numbering System

A. Inverse Yarn No. System

$$K = \text{Texture} / \sqrt{\text{Yarn No.}}$$

$$\beta = \sqrt{\text{Warp Yarn No.} / \text{Filling Yarn No.}}$$

	Max. Cover Factor	Cotton Conv. Constant
Cotton	28.00	1.000
Wool (cut)	17.10	1.637
Worsted	22.80	1.228
Linen	16.70	1.677
Glass	15.28	1.832

B. Direct Yarn No. System

$$K = \text{Texture} \sqrt{\text{Yarn No.}}$$

$$\beta = \sqrt{\text{Filling Yarn No.} / \text{Warp Yarn No.}}$$

	Max. Cover Factor	Cotton Conv. Constant
Silk	2310	0.0121
Nylon	2160	0.0130
Fortisan	2500	0.0112
Vinyon	2330	0.0120
Acetate	2330	0.0120

FIG. 1

MAXIMUM TEXTURES OF COTTON, PLAIN WEAVE FABRICS IN TERMS OF COVER FACTORS & BETA

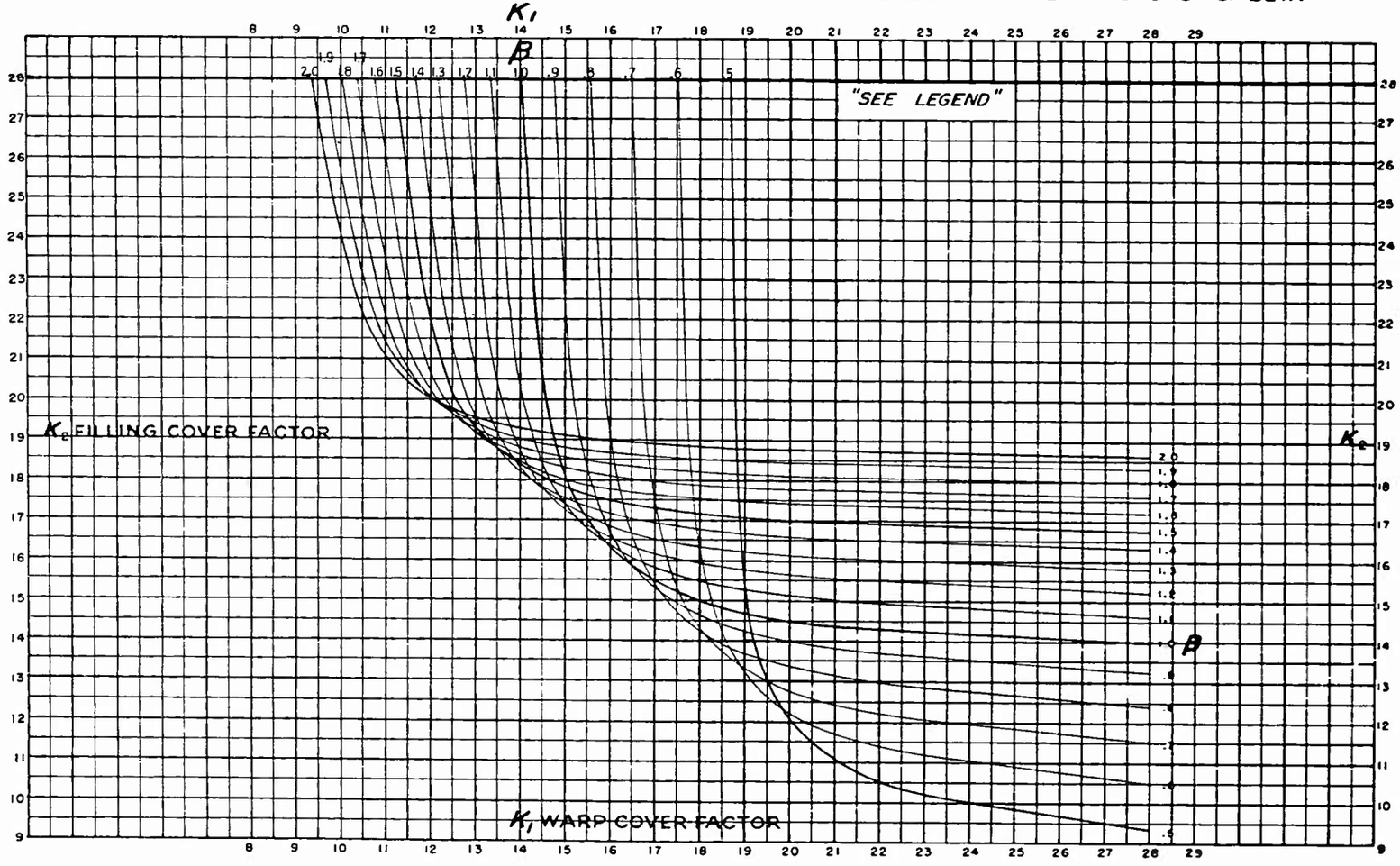


FIG. 2

MAXIMUM TEXTURES OF COTTON, 3 HARNESS WEAVE FABRICS IN TERMS OF COVER FACTORS AND BETA

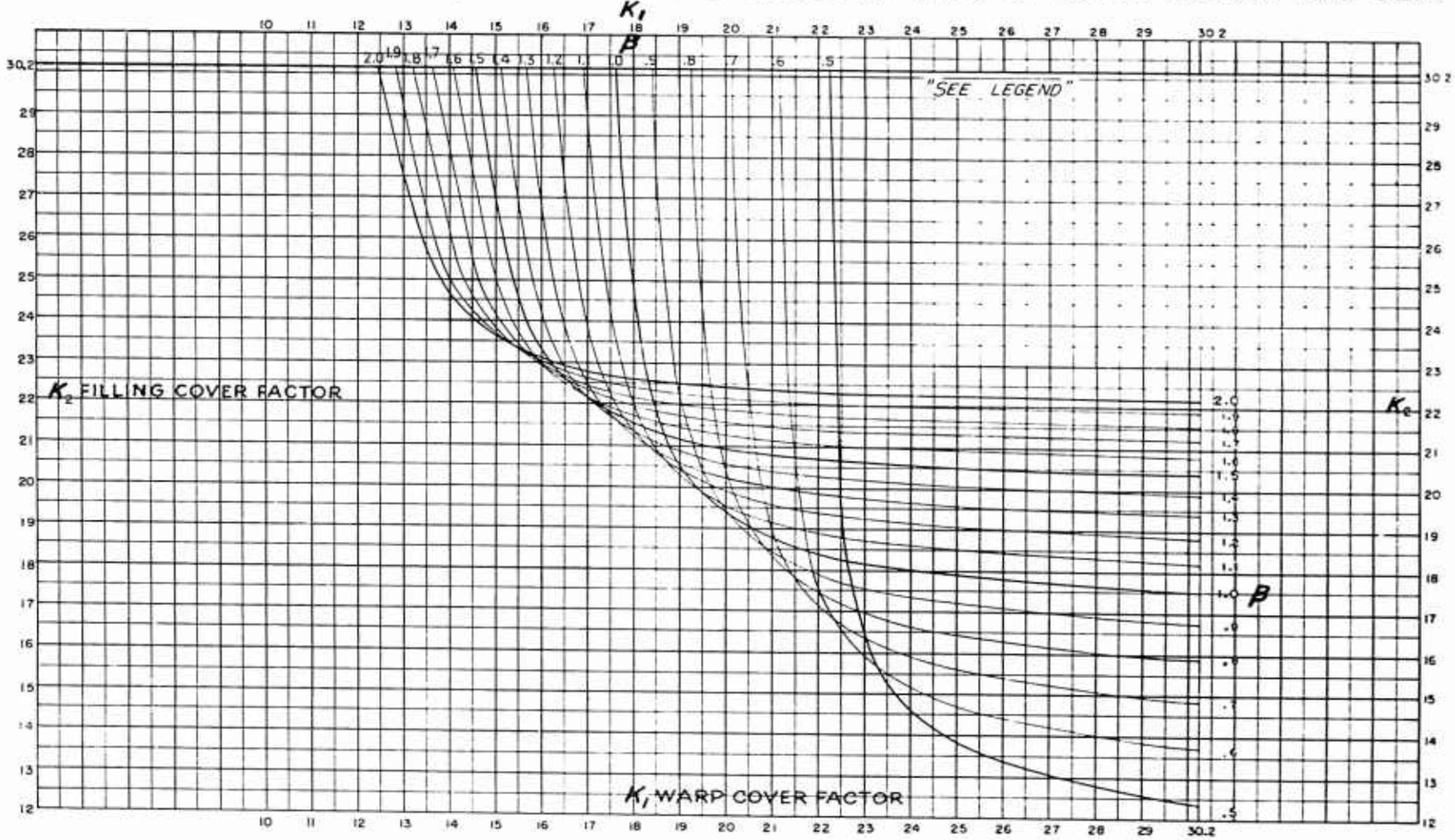


FIG. 3

MAXIMUM TEXTURES OF COTTON, 4 HARNESS WEAVE FABRICS IN TERMS OF COVER FACTORS AND BETA

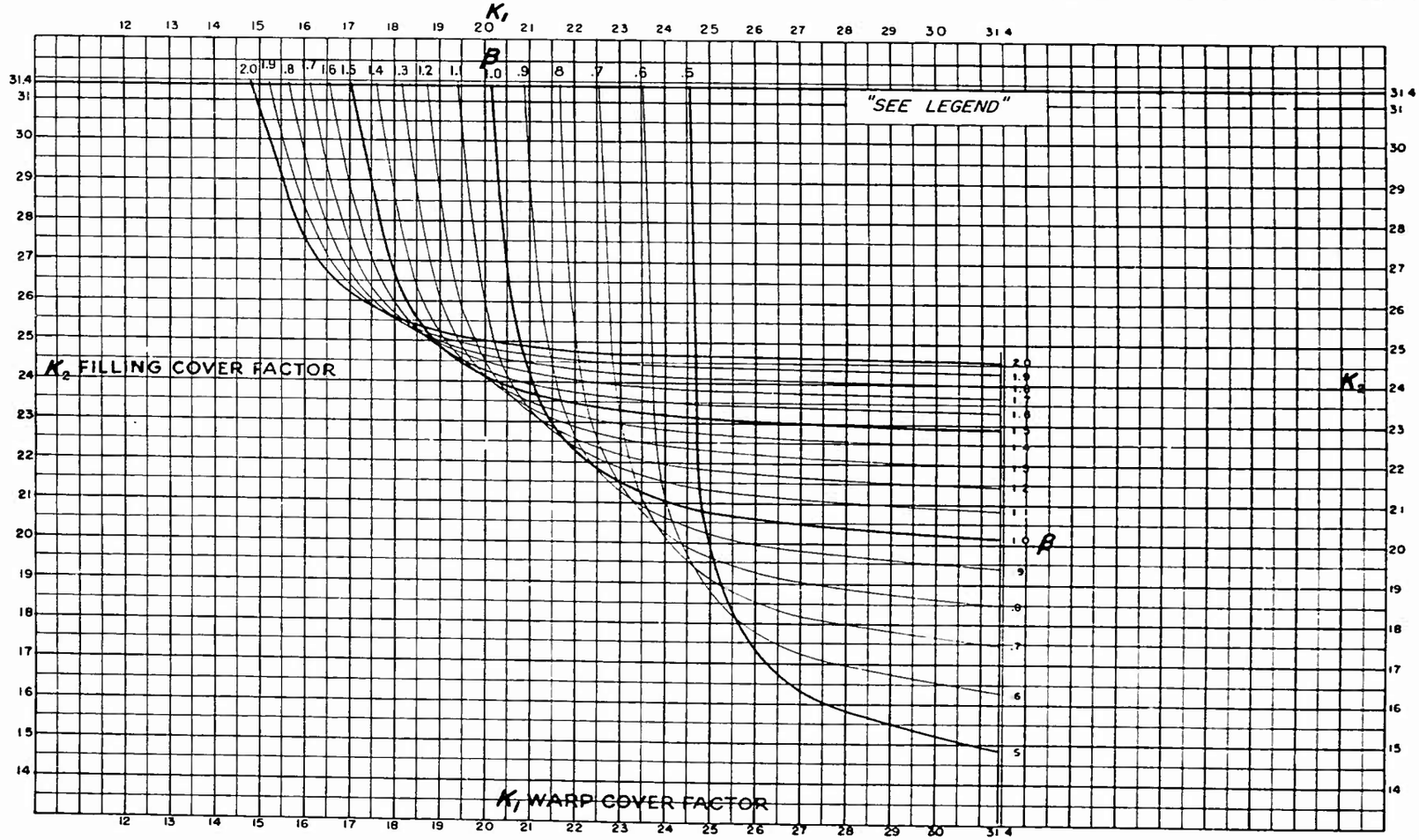


FIG. 4

MAXIMUM TEXTURE OF COTTON, 5 HARNESS SATIN WEAVE FABRICS IN TERMS OF COVER FACTORS AND BETA

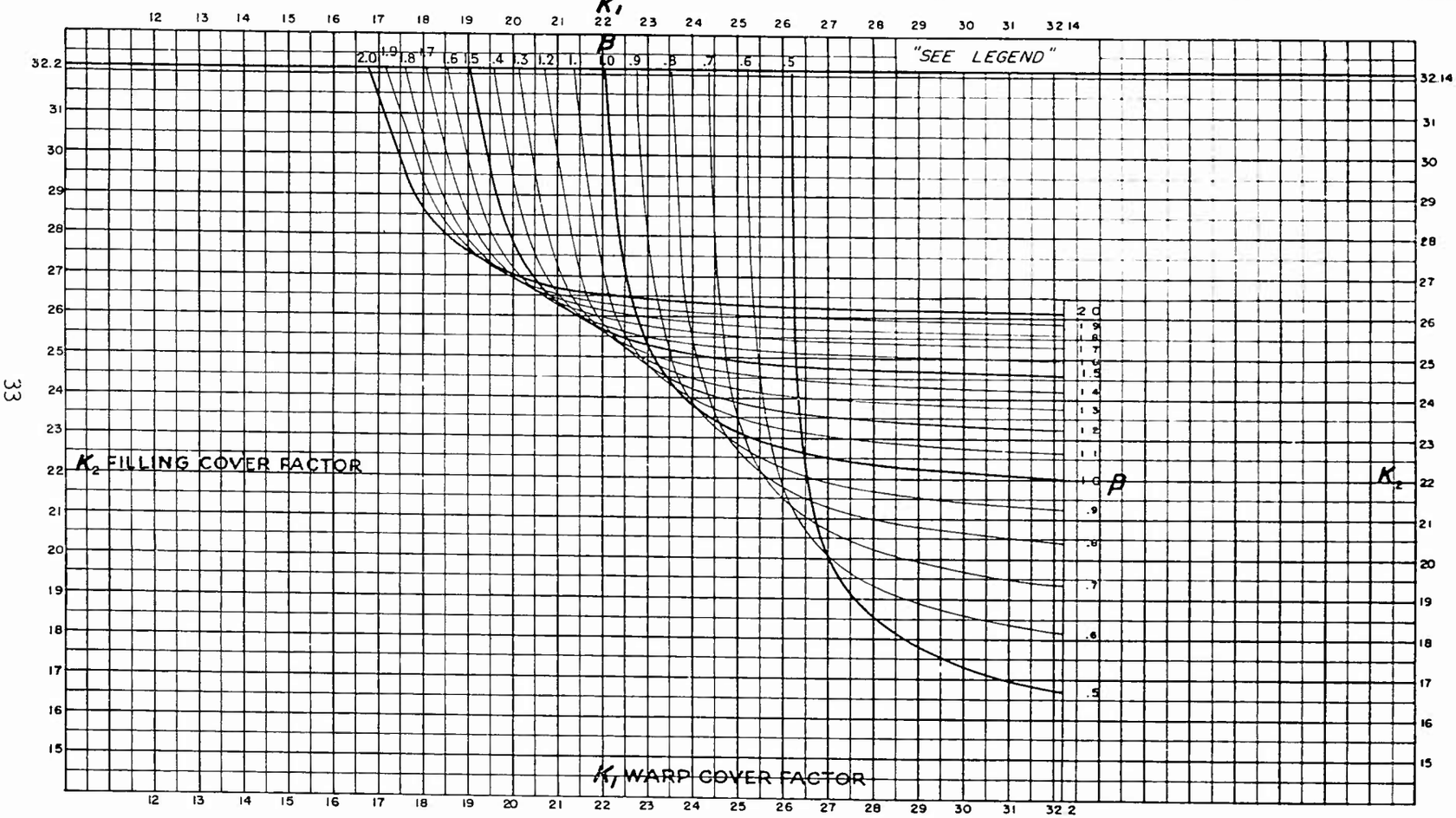


FIG. 5

MAXIMUM TEXTURES OF COTTON, OXFORD WEAVE FABRICS IN TERMS OF COVER FACTORS & BETA

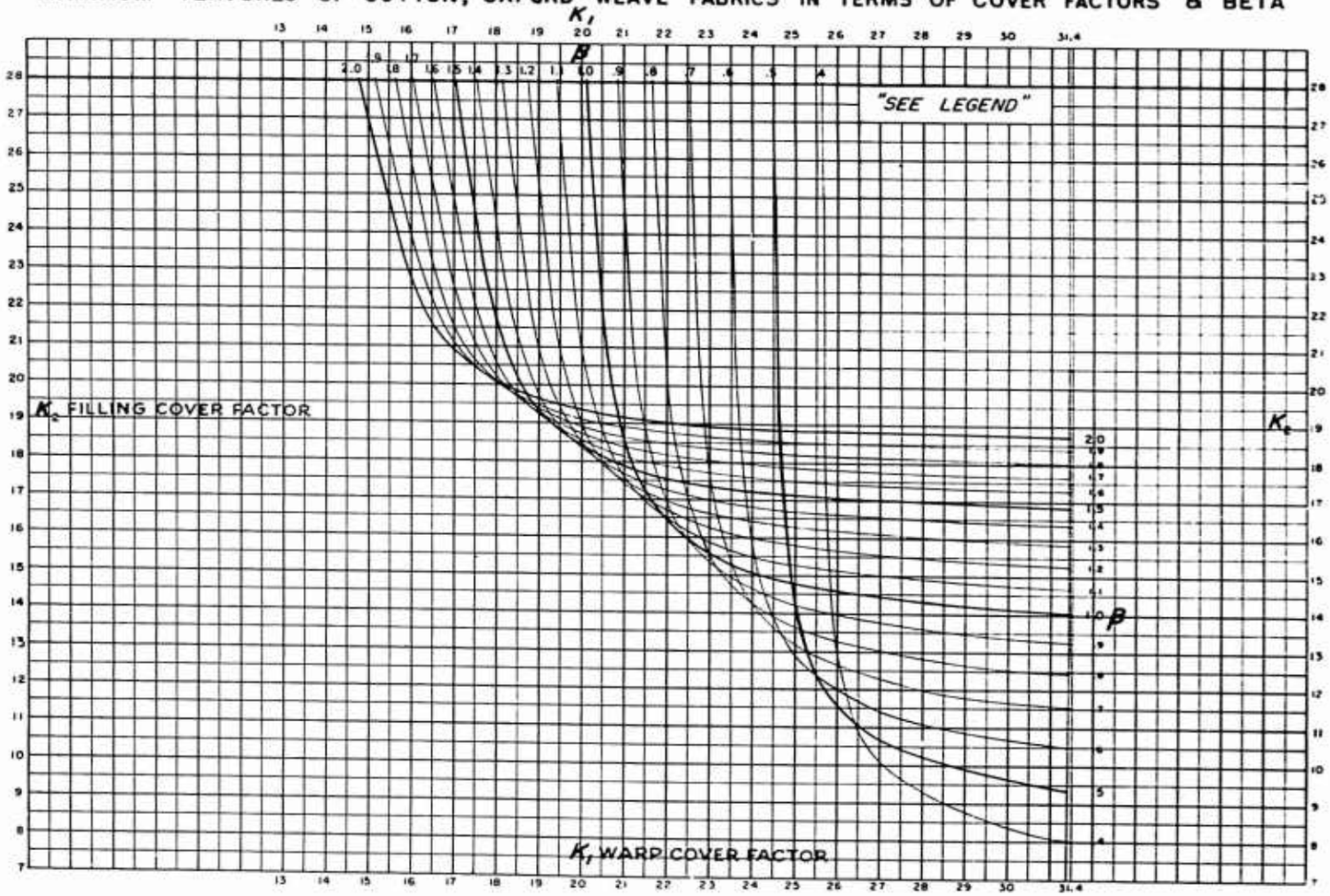
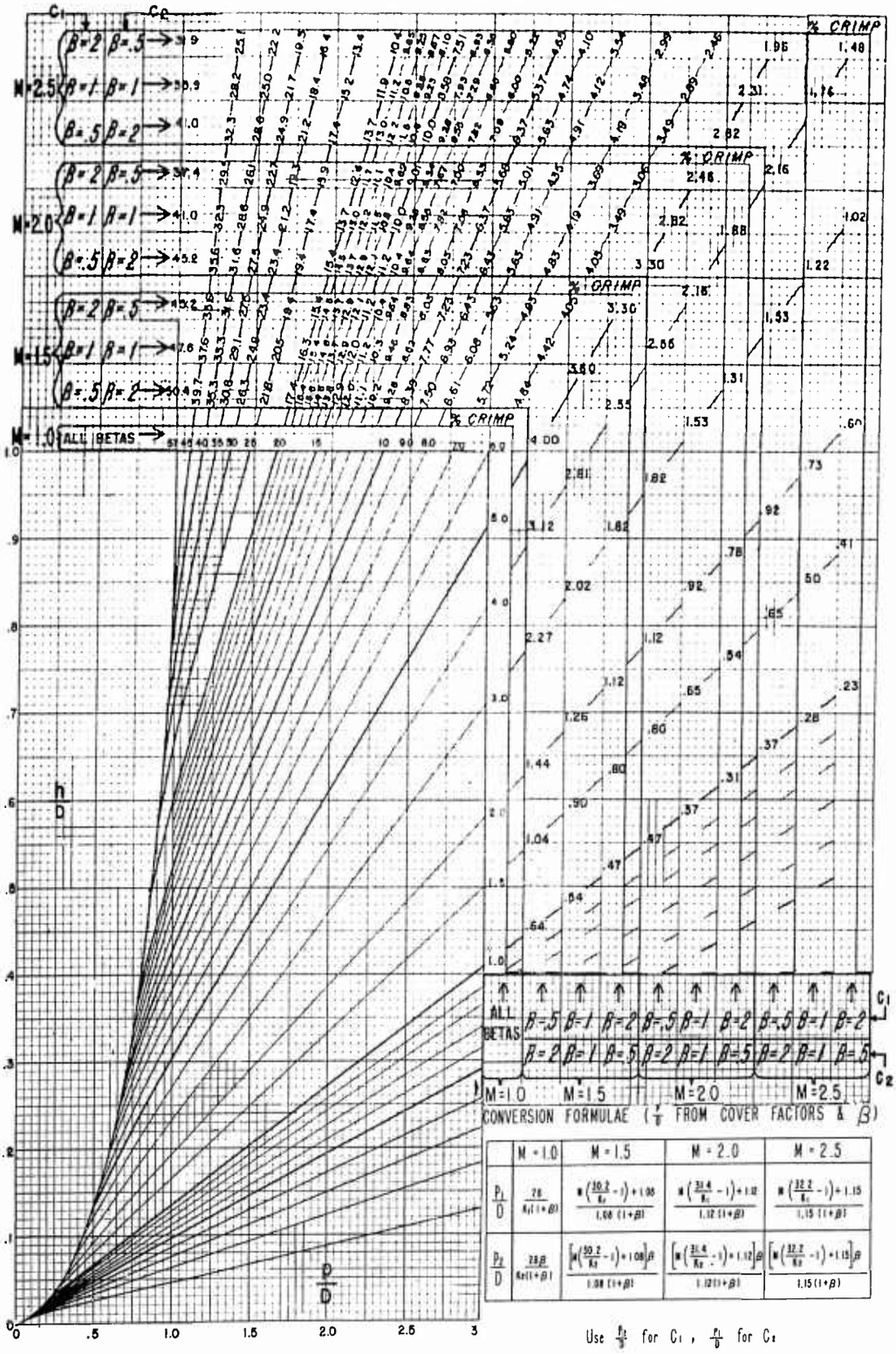


FIG. 6 YARN DISPLACEMENT OF VARIOUS WEAVE FABRICS IN TERMS OF YARN SPACING AND CRIMP



	M = 1.0	M = 1.5	M = 2.0	M = 2.5
$\frac{p_1}{D}$	$\frac{2\beta}{k_1(1+\beta)}$	$\frac{M\left(\frac{30.2}{k_2}-1\right)+1.08}{1.08\,(1+\beta)}$	$\frac{M\left(\frac{31.4}{k_2}-1\right)+1.12}{1.12\,(1+\beta)}$	$\frac{M\left(\frac{32.2}{k_2}-1\right)+1.15}{1.15\,(1+\beta)}$
$\frac{p_2}{D}$	$\frac{2\beta}{k_2(1+\beta)}$	$\frac{\left[M\left(\frac{30.2}{k_2}-1\right)+1.08\right]\beta}{1.08\,(1+\beta)}$	$\frac{\left[M\left(\frac{31.4}{k_2}-1\right)+1.12\right]\beta}{1.12\,(1+\beta)}$	$\frac{\left[M\left(\frac{32.2}{k_2}-1\right)+1.15\right]\beta}{1.15\,(1+\beta)}$

APPENDIX B

COMPUTER PROGRAM FOR SOLUTION OF MAXIMUM WEAVABILITY EQUATIONS

1. Introduction

The computer program summarized in this report was written with the intent of tabling the five graphs found in the report reprinted as Appendix A ("Graphical relationships in cloth geometry for plain, twill, and sateen weaves").

The program was a result of a group effort by the Computer Branch, of which Mr. John M. Lawler is chief. Major contributions were made by Messrs David Gracia and George H. Haines, Jr. Also, the Computer Branch would like to acknowledge the helpful suggestions of Mr. James Mills, Aerial Delivery Equipment Division.

2. Program description

a. General

The program finds values of K_2 which satisfy three equations. These equations are:

1. $$\sqrt{1-\left[\frac{28}{(1+\beta)K_1}\right]^2} + \sqrt{1-\left[\frac{28\beta}{(1+\beta)K_2}\right]^2} = 1$$

2. $$\sqrt{1-\left[\frac{M\left(\frac{C_1}{K_1}-1\right)+Z}{Z(1+\beta)}\right]^2} + \sqrt{1-\left[\frac{\left(M\left(\frac{C_1}{K_2}-1\right)+Z\right)\beta}{Z(1+\beta)}\right]^2} = 1$$

3. $$\sqrt{1-\left[\frac{M_1\left(\frac{31.4}{K_1}-1\right)+1.12}{1.12(1+\beta)}\right]^2} + \sqrt{1-\left[\frac{28\beta}{(1+\beta)K_2}\right]^2} = 1$$

The range of variables is:

(β from 0.5 to 2.0 inclusive - intervals of .1

(K_1) from 8 to 32 inclusive - intervals of 1.0

In addition, for equation (2) there are three sets of conditions:

(2a) M = 1.5, C_1 = 30.2 Z = 1.08

(2b) M = 2.0, C_1 = 31.4 Z = 1.12

(2c) M = 2.5, C_1 = 32.2 Z = 1.15

Before writing the program, these equations were analytically solved for K_2 as a function of β and K_1. Thus, the program calculates K_2 directly, given parameter values, and values of β and K_1. The analytical solution of the equations is discussed in a Note at the end of this Appendix. The program automatically halts when answers become complex numbers, and goes on to the next table. Only answers which are real numbers are printed.

b. Functional

Not applicable

3. Operating instructions

a. Deck make-up

There are three programs, one for each equation. The programs are in WIZ, and must, therefore, be compiled before being run. The object program followed by one data card (for the equation [2] program) is placed behind Wizpac, and a normal WIZ load executed. The answers should follow. For the equation (1) or equation (3) programs there is no data card.

b. Tape drives

Not applicable

c. Input

The input for Program II consists of one card with values for C_1, Z and M punched on it in that order. The values must obey the rules for WIZ data cards. There are no data cards read by Program I or Program III.

d. Data display

The output consists of a series of tables. There is one table for each value of ; following the given B are printed the given value of K_1 and, to the right of K_1, the calculated K_2. One table is printed on each sheet of paper.

4. Flow charts

Program I:

1. Initialize B1 = 0.5; K1 = 32, C1 = 28
2. Print Headings
3. Compute K2 and output it
4. Go on to next table when present table is computed

Program II:

1. Initialize B and K1
2. Read C1, Z, M
3. Print Headings
4. $FA = (M(C1/K1 - 1) + Z)/(Z(1 + B)^2)$
5. $FB = 1 - FA$
6. $FC = 2/FB$
7. $FG = FA + FC - 1$
8. $K_2 = (B)(M)(C1)/(FD)(Z)(1+B)-(B)(Z)+(B)(M)$
9. Print value of K1 and K2
10. Step K1
11. Go on to next table when ready
12. Halt when all tables are computed

5. Variable Dictionary

K_1 = K1

K_2 = K2

M = M

Z = Z

C_1 = C1

β = B

FA, FB, etc = interval working variables

NOTE

Below is briefly sketched the nature of the solution to these equations:

$$\sqrt{1+\left[\frac{28}{(1+\beta)K_1}\right]^2} + \sqrt{1-\left[\frac{28\beta}{(1+\beta)K_2}\right]^2} = 1$$

let $A = [28/(1+\beta)K_1]$

$C = [28\beta/(1+\beta)K_2]$

$$\sqrt{1-C^2} = 1 - \sqrt{1+A^2}$$

Square both sides

$$1 - C^2 = 1 - 2\sqrt{1+A^2} + 1+A^2$$

Cancel the ones

$$-C^2 = 1 - 2\sqrt{1+A^2} + A^2$$

$$C^2 = 2\sqrt{1+A^2} - 1 - A^2$$

The equation is now in the form $K_2 = f(\beta, K_1)$, which is the desired answer.

WIZ COMPILER SENTENCE FORM

PROGRAM TABLE

PROGRAMMER LT. GEORGE H. HAINES, JR AND DAVID GRACIA

COMPUTER GE-225

DATE

PAGE 1 OF 1

SEQUENCE NUMBER	LABEL	•	TYPE	STATEMENT	$	C	CONDITIONAL BRANCH 0	+ 0	+	−	...
				$TABLE C-006							
			I	B(.5),K1(32)	EQUATION I						
			PL	B							
				C1=28							
				K2=34							
	20		SL								
			PL	B							
			PV	B							
			PL	K1 K2							
	12			FA=(C1/((1+B)*K1))**2							
				FB=1-FA							
	14			FC=2*SQRT.(FB)					14	30	
				FG=FA+FC-1							
	15			FD=SQRT.(FG)					15	30	
				K2=(C1*B)/((1+B)*FD)							
			PV	K1, K2							
				K1=K1-1							
	30			B=B+.1,K1=32					12		
				B=2							
	END		END	$END OF PROGRAM			20			20	

CARD CODES HOLLERITH

Figure 1a. WIZ Compiler Sentence Form

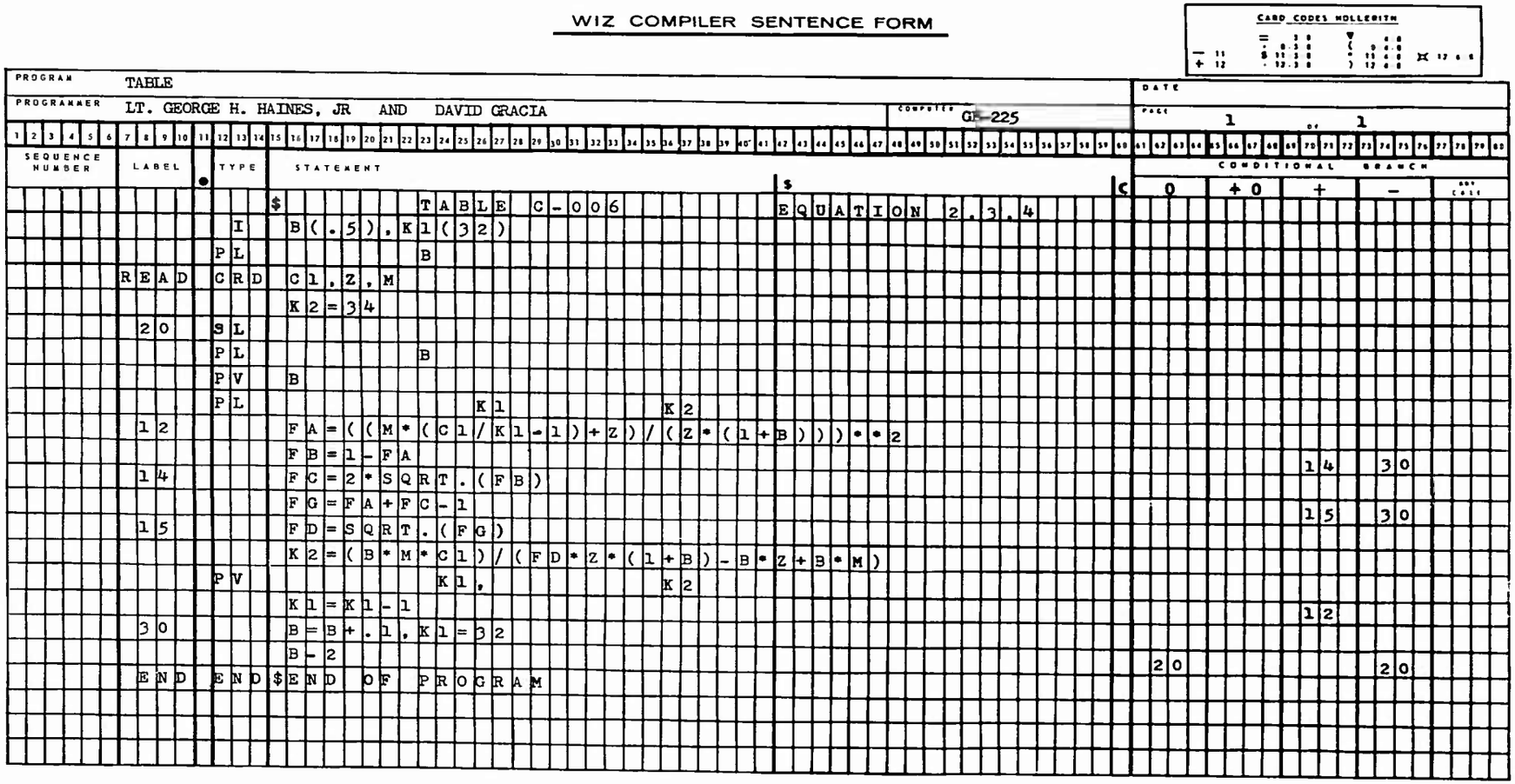


Figure 1b. WIZ Compiler Sentence Form

WIZ COMPILER SENTENCE FORM

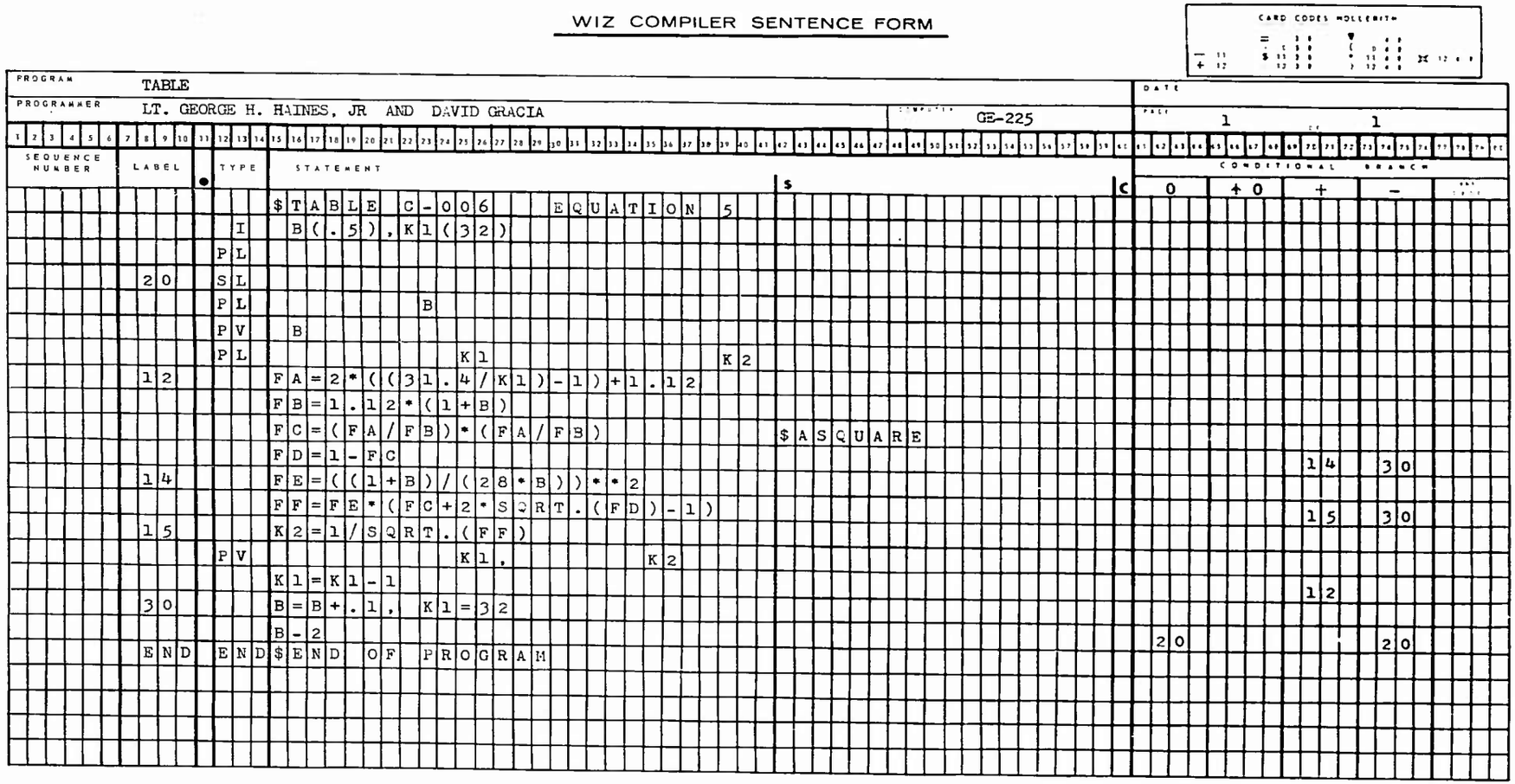


Figure 1c. WIZ Compiler Sentence Form

COVER FACTOR TABLE

TABLE I. COVER FACTOR IN TERMS OF YARN NUMBER AND TEXTURE

This table provides solutions for the cover factor equation (3a)

For each yarn number listed above, textures are given over a range from 200 down to 11 yarns per inch.

Note: The yarn numbers in this table are singles equivalent

See sections in the body of the report for:

Organization of Table I (3a)

Solution of typical problems (5a)

Assumptions and limitations of tables (6)

TABLE I

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	84	83	82	81	80	79	78
200	21.822	21.953	22.086	22.222	22.361	22.502	22.646
198	21.604	21.733	21.865	22.000	22.137	22.277	22.419
196	21.385	21.514	21.645	21.778	21.913	22.052	22.193
194	21.167	21.294	21.424	21.556	21.690	21.827	21.966
192	20.949	21.075	21.203	21.333	21.466	21.602	21.740
190	20.731	20.855	20.982	21.111	21.243	21.377	21.513
188	20.512	20.636	20.761	20.889	21.019	21.152	21.287
186	20.294	20.416	20.540	20.667	20.795	20.927	21.060
184	20.076	20.197	20.319	20.444	20.572	20.702	20.834
182	19.858	19.977	20.099	20.222	20.348	20.477	20.607
180	19.640	19.758	19.878	20.000	20.125	20.252	20.381
178	19.421	19.538	19.657	19.778	19.901	20.027	20.155
176	19.203	19.319	19.436	19.556	19.677	19.802	19.928
174	18.985	19.099	19.215	19.333	19.454	19.577	19.702
172	18.767	18.879	18.994	19.111	19.230	19.352	19.475
170	18.549	18.660	18.773	18.889	19.007	19.126	19.249
169	18.439	18.550	18.663	18.778	18.895	19.014	19.135
168	18.330	18.440	18.552	18.667	18.783	18.901	19.022
167	18.221	18.331	18.442	18.556	18.671	18.789	18.909
166	18.112	18.221	18.332	18.444	18.559	18.676	18.796
165	18.003	18.111	18.221	18.333	18.448	18.564	18.683
164	17.894	18.001	18.111	18.222	18.336	18.451	18.569
163	17.785	17.892	18.000	18.111	18.224	18.339	18.456
162	17.676	17.782	17.890	18.000	18.112	18.226	18.343
161	17.567	17.672	17.779	17.889	18.000	18.114	18.230
160	17.457	17.562	17.669	17.778	17.889	18.001	18.116
159	17.348	17.453	17.559	17.667	17.777	17.889	18.003
158	17.239	17.343	17.448	17.556	17.665	17.776	17.890
157	17.130	17.233	17.338	17.444	17.553	17.664	17.777
156	17.021	17.123	17.227	17.333	17.441	17.551	17.664
155	16.912	17.013	17.117	17.222	17.330	17.439	17.550
154	16.803	16.904	17.006	17.111	17.218	17.326	17.437
153	16.694	16.794	16.896	17.000	17.106	17.214	17.324
152	16.585	16.684	16.786	16.889	16.994	17.101	17.211
151	16.475	16.574	16.675	16.778	16.882	16.989	17.097

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 84	83	82	81	80	79	78
150	16.366	16.465	16.565	16.667	16.771	16.876	16.984
149	16.257	16.355	16.454	16.556	16.659	16.764	16.871
148	16.148	16.245	16.344	16.444	16.547	16.651	16.758
147	16.039	16.135	16.233	16.333	16.435	16.539	16.644
146	15.930	16.026	16.123	16.222	16.323	16.426	16.531
145	15.821	15.916	16.013	16.111	16.211	16.314	16.418
144	15.712	15.806	15.902	16.000	16.100	16.201	16.305
143	15.603	15.696	15.792	15.889	15.988	16.089	16.192
142	15.493	15.587	15.681	15.778	15.876	15.976	16.078
141	15.384	15.477	15.571	15.667	15.764	15.864	15.965
140	15.275	15.367	15.460	15.556	15.652	15.751	15.852
139	15.166	15.257	15.350	15.444	15.541	15.639	15.739
138	15.057	15.147	15.240	15.333	15.429	15.526	15.625
137	14.948	15.038	15.129	15.222	15.317	15.414	15.512
136	14.839	14.928	15.019	15.111	15.205	15.301	15.399
135	14.730	14.818	14.908	15.000	15.093	15.189	15.286
134	14.621	14.708	14.798	14.889	14.982	15.076	15.173
133	14.511	14.599	14.687	14.778	14.870	14.964	15.059
132	14.402	14.489	14.577	14.667	14.758	14.851	14.946
131	14.293	14.379	14.467	14.556	14.646	14.739	14.833
130	14.184	14.269	14.356	14.444	14.534	14.626	14.720
129	14.075	14.160	14.246	14.333	14.423	14.514	14.606
128	13.966	14.050	14.135	14.222	14.311	14.401	14.493
127	13.857	13.940	14.025	14.111	14.199	14.289	14.380
126	13.748	13.830	13.914	14.000	14.087	14.176	14.267
125	13.639	13.721	13.804	13.889	13.975	14.064	14.153
124	13.530	13.611	13.694	13.778	13.864	13.951	14.040
123	13.420	13.501	13.583	13.667	13.752	13.839	13.927
122	13.311	13.391	13.473	13.556	13.640	13.726	13.814
121	13.202	13.281	13.362	13.444	13.528	13.614	13.701
120	13.093	13.172	13.252	13.333	13.416	13.501	13.587
119	12.984	13.062	13.141	13.222	13.305	13.389	13.474
118	12.875	12.952	13.031	13.111	13.193	13.276	13.361
117	12.766	12.842	12.920	13.000	13.081	13.164	13.248
116	12.657	12.733	12.810	12.889	12.969	13.051	13.134

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	84	83	82	81	80	79	78
115	12.548	12.623	12.700	12.778	12.857	12.939	13.021
114	12.438	12.513	12.589	12.667	12.746	12.826	12.908
113	12.329	12.403	12.479	12.556	12.634	12.713	12.795
112	12.220	12.294	12.368	12.444	12.522	12.601	12.682
111	12.111	12.184	12.258	12.333	12.410	12.488	12.568
110	12.002	12.074	12.147	12.222	12.298	12.376	12.455
109	11.893	11.964	12.037	12.111	12.187	12.263	12.342
108	11.784	11.855	11.927	12.000	12.075	12.151	12.229
107	11.675	11.745	11.816	11.889	11.963	12.038	12.115
106	11.566	11.635	11.706	11.778	11.851	11.926	12.002
105	11.456	11.525	11.595	11.667	11.739	11.813	11.889
104	11.347	11.415	11.485	11.556	11.628	11.701	11.776
103	11.238	11.306	11.374	11.444	11.516	11.588	11.662
102	11.129	11.196	11.264	11.333	11.404	11.476	11.549
101	11.020	11.086	11.154	11.222	11.292	11.363	11.436
100	10.911	10.976	11.043	11.111	11.180	11.251	11.323
99	10.802	10.867	10.933	11.000	11.069	11.138	11.210
98	10.693	10.757	10.822	10.889	10.957	11.026	11.096
97	10.584	10.647	10.712	10.778	10.845	10.913	10.983
96	10.474	10.537	10.601	10.667	10.733	10.801	10.870
95	10.365	10.428	10.491	10.556	10.621	10.688	10.757
94	10.256	10.318	10.381	10.444	10.510	10.576	10.643
93	10.147	10.208	10.270	10.333	10.398	10.463	10.530
92	10.038	10.098	10.160	10.222	10.286	10.351	10.417
91	9.929	9.989	10.049	10.111	10.174	10.238	10.304
90	9.820	9.879	9.939	10.000	10.062	10.126	10.190
89	9.711	9.769	9.828	9.889	9.951	10.013	10.077
88	9.602	9.659	9.718	9.778	9.839	9.901	9.964
87	9.492	9.549	9.608	9.667	9.727	9.788	9.851
86	9.383	9.440	9.497	9.556	9.615	9.676	9.738
85	9.274	9.330	9.387	9.444	9.503	9.563	9.624
84	9.165	9.220	9.276	9.333	9.391	9.451	9.511
83	9.056	9.110	9.166	9.222	9.280	9.338	9.398
82	8.947	9.001	9.055	9.111	9.168	9.226	9.285
81	8.838	8.891	8.945	9.000	9.056	9.113	9.171

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	84	83	82	81	80	79	78
80	8.729	8.781	8.835	8.889	8.944	9.001	9.058
79	8.620	8.671	8.724	8.778	8.832	8.888	8.945
78	8.510	8.562	8.614	8.667	8.721	8.776	8.832
77	8.401	8.452	8.503	8.556	8.609	8.663	8.719
76	8.292	8.342	8.393	8.444	8.497	8.551	8.605
75	8.183	8.232	8.282	8.333	8.385	8.438	8.492
74	8.074	8.123	8.172	8.222	8.273	8.326	8.379
73	7.965	8.013	8.062	8.111	8.162	8.213	8.266
72	7.856	7.903	7.951	8.000	8.050	8.101	8.152
71	7.747	7.793	7.841	7.889	7.938	7.988	8.039
70	7.638	7.683	7.730	7.778	7.826	7.876	7.926
69	7.529	7.574	7.620	7.667	7.714	7.763	7.813
68	7.419	7.464	7.509	7.556	7.603	7.651	7.699
67	7.310	7.354	7.399	7.444	7.491	7.538	7.586
66	7.201	7.244	7.288	7.333	7.379	7.426	7.473
65	7.092	7.135	7.178	7.222	7.267	7.313	7.360
64	6.983	7.025	7.068	7.111	7.155	7.201	7.247
63	6.874	6.915	6.957	7.000	7.044	7.088	7.133
62	6.765	6.805	6.847	6.889	6.932	6.976	7.020
61	6.656	6.696	6.736	6.778	6.820	6.863	6.907
60	6.547	6.586	6.626	6.667	6.708	6.751	6.794
59	6.437	6.476	6.515	6.556	6.596	6.638	6.680
58	6.328	6.366	6.405	6.444	6.485	6.526	6.567
57	6.219	6.257	6.295	6.333	6.373	6.413	6.454
56	6.110	6.147	6.184	6.222	6.261	6.300	6.341
55	6.001	6.037	6.074	6.111	6.149	6.188	6.228
54	5.892	5.927	5.963	6.000	6.037	6.075	6.114
53	5.783	5.818	5.853	5.889	5.926	5.963	6.001
52	5.674	5.708	5.742	5.778	5.814	5.850	5.888
51	5.565	5.598	5.632	5.667	5.702	5.738	5.775
50	5.455	5.488	5.522	5.556	5.590	5.625	5.661
49	5.346	5.378	5.411	5.444	5.478	5.513	5.548
48	5.237	5.269	5.301	5.333	5.367	5.400	5.435
47	5.128	5.159	5.190	5.222	5.255	5.288	5.322
46	5.019	5.049	5.080	5.111	5.143	5.175	5.208

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	84	83	82	81	80	79	78
45	4.910	4.939	4.969	5.000	5.031	5.063	5.095
44	4.801	4.830	4.859	4.889	4.919	4.950	4.982
43	4.692	4.720	4.749	4.778	4.808	4.838	4.869
42	4.583	4.610	4.638	4.667	4.696	4.725	4.756
41	4.473	4.500	4.528	4.556	4.584	4.613	4.642
40	4.364	4.391	4.417	4.444	4.472	4.500	4.529
39	4.255	4.281	4.307	4.333	4.360	4.388	4.416
38	4.146	4.171	4.196	4.222	4.249	4.275	4.303
37	4.037	4.061	4.086	4.111	4.137	4.163	4.189
36	3.928	3.952	3.976	4.000	4.025	4.050	4.076
35	3.819	3.842	3.865	3.889	3.913	3.938	3.963
34	3.710	3.732	3.755	3.778	3.801	3.825	3.850
33	3.601	3.622	3.644	3.667	3.690	3.713	3.737
32	3.491	3.512	3.534	3.556	3.578	3.600	3.623
31	3.382	3.403	3.423	3.444	3.466	3.488	3.510
30	3.273	3.293	3.313	3.333	3.354	3.375	3.397
29	3.164	3.183	3.203	3.222	3.242	3.263	3.284
28	3.055	3.073	3.092	3.111	3.130	3.150	3.170
27	2.946	2.964	2.982	3.000	3.019	3.038	3.057
26	2.837	2.854	2.871	2.889	2.907	2.925	2.944
25	2.728	2.744	2.761	2.778	2.795	2.813	2.831
24	2.619	2.634	2.650	2.667	2.683	2.700	2.717
23	2.510	2.525	2.540	2.556	2.571	2.588	2.604
22	2.400	2.415	2.429	2.444	2.460	2.475	2.491
21	2.291	2.305	2.319	2.333	2.348	2.363	2.378
20	2.182	2.195	2.209	2.222	2.236	2.250	2.265
19	2.073	2.086	2.098	2.111	2.124	2.138	2.151
18	1.964	1.976	1.988	2.000	2.012	2.025	2.038
17	1.855	1.866	1.877	1.889	1.901	1.913	1.925
16	1.746	1.756	1.767	1.778	1.789	1.800	1.812
15	1.637	1.646	1.656	1.667	1.677	1.688	1.698
14	1.528	1.537	1.546	1.556	1.565	1.575	1.585
13	1.418	1.427	1.436	1.444	1.453	1.463	1.472
12	1.309	1.317	1.325	1.333	1.342	1.350	1.359
11	1.200	1.207	1.215	1.222	1.230	1.238	1.246

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 77	76	75	74	73	72	71
200	22.792	22.942	23.094	23.250	23.408	23.570	23.736
198	22.564	22.712	22.863	23.017	23.174	23.335	23.498
196	22.336	22.483	22.632	22.785	22.940	23.099	23.261
194	22.108	22.253	22.401	22.552	22.706	22.863	23.024
192	21.880	22.024	22.170	22.320	22.472	22.627	22.786
190	21.653	21.794	21.939	22.087	22.238	22.392	22.549
188	21.425	21.565	21.708	21.855	22.004	22.156	22.311
186	21.197	21.336	21.477	21.622	21.770	21.920	22.074
184	20.969	21.106	21.246	21.390	21.536	21.685	21.837
182	20.741	20.877	21.016	21.157	21.301	21.449	21.599
180	20.513	20.647	20.785	20.925	21.067	21.213	21.362
178	20.285	20.418	20.554	20.692	20.833	20.978	21.125
176	20.057	20.189	20.323	20.460	20.599	20.742	20.887
174	19.829	19.959	20.092	20.227	20.365	20.506	20.650
172	19.601	19.730	19.861	19.995	20.131	20.270	20.413
170	19.373	19.500	19.630	19.762	19.897	20.035	20.175
169	19.259	19.386	19.514	19.646	19.780	19.917	20.057
168	19.145	19.271	19.399	19.530	19.663	19.799	19.938
167	19.031	19.156	19.283	19.413	19.546	19.681	19.819
166	18.917	19.042	19.168	19.297	19.429	19.563	19.701
165	18.803	18.927	19.053	19.181	19.312	19.445	19.582
164	18.690	18.812	18.937	19.065	19.195	19.328	19.463
163	18.576	18.697	18.822	18.948	19.078	19.210	19.345
162	18.462	18.583	18.706	18.832	18.961	19.092	19.226
161	18.348	18.468	18.591	18.716	18.844	18.974	19.107
160	18.234	18.353	18.475	18.600	18.727	18.856	18.989
159	18.120	18.239	18.360	18.483	18.610	18.738	18.870
158	18.006	18.124	18.244	18.367	18.493	18.620	18.751
157	17.892	18.009	18.129	18.251	18.375	18.503	18.632
156	17.778	17.894	18.013	18.135	18.258	18.385	18.514
155	17.664	17.780	17.898	18.018	18.141	18.267	18.395
154	17.550	17.665	17.782	17.902	18.024	18.149	18.276
153	17.436	17.550	17.667	17.786	17.907	18.031	18.158
152	17.322	17.436	17.551	17.670	17.790	17.913	18.039
151	17.208	17.321	17.436	17.553	17.673	17.796	17.920

TABLE I [CONT.]

COVER FACTOR TABLE

	YARN NUMBERS						
[illegible]	77	76	75	74	73	72	71
[illegible]	17.094	17.206	17.321	17.437	17.556	17.678	17.802
49	16.980	17.091	17.205	17.321	17.439	17.560	17.683
48	16.866	16.977	17.09[illegible]	[illegible].205	17.322	17.442	17.564
147	16.752	16.862	16.[illegible]74	17.088	17.205	17.324	17.446
146	16.638	16.747	16.859	16.972	17.088	17.206	17.327
145	16.524	16.633	16.743	16.856	16.971	17.088	17.208
144	16.410	16.518	16.628	16.740	16.854	16.971	17.090
143	16.296	16.403	16.512	16.623	16.737	16.853	16.971
142	16.182	16.289	16.397	16.507	16.620	16.735	16.852
141	16.068	16.174	16.281	16.391	16.503	16.617	16.734
140	15.954	16.059	16.166	16.275	16.386	16.499	16.615
139	15.841	15.944	16.050	16.158	16.269	16.381	16.496
138	15.727	15.830	15.935	16.042	16.152	16.263	16.378
137	15.613	15.715	15.819	15.926	16.035	16.146	16.259
136	15.499	15.600	15.704	15.810	15.918	16.028	16.140
135	15.385	15.486	15.588	15.693	15.801	15.910	16.022
134	15.271	15.371	15.473	15.577	15.684	15.792	15.903
133	15.157	15.256	15.358	15.461	15.566	15.674	15.784
132	15.043	15.141	15.242	15.345	15.449	15.556	15.666
131	14.929	15.027	15.127	15.228	15.332	15.438	15.547
130	14.815	14.912	15.011	15.112	15.215	15.321	15.428
129	14.701	14.797	14.896	14.996	15.098	15.203	15.309
128	14.587	14.683	14.780	14.880	14.981	15.085	15.191
127	14.473	14.568	14.665	14.763	14.864	14.967	15.072
126	14.359	14.453	14.549	14.647	14.747	14.849	14.953
125	14.245	14.338	14.434	14.531	14.630	14.731	14.835
124	14.131	14.224	14.318	14.415	14.513	14.614	14.716
123	14.017	14.109	14.203	14.298	14.396	14.496	14.597
122	13.903	13.994	14.087	14.182	14.279	14.378	14.479
121	13.789	13.880	13.972	14.066	14.162	14.260	14.360
120	13.675	13.765	13.856	13.950	14.045	14.142	14.241
119	13.561	13.650	13.741	13.833	13.928	14.024	14.123
118	13.447	13.536	13.625	13.717	13.811	13.906	14.004
117	13.333	13.421	13.510	13.601	13.694	13.789	13.885
116	13.219	13.306	13.395	13.485	13.577	13.671	13.767

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 77	76	75	74	73	72	71
115	13.105	13.191	13.279	13.368	13.460	13.553	13.648
114	12.992	13.077	13.164	13.252	13.343	13.435	13.529
113	12.878	12.962	13.048	13.136	13.226	13.317	13.411
112	12.764	12.847	12.933	13.020	13.109	13.199	13.292
111	12.650	12.733	12.817	12.903	12.992	13.081	13.173
110	12.536	12.618	12.702	12.787	12.875	12.964	13.055
109	12.422	12.503	12.586	12.671	12.757	12.846	12.936
108	12.308	12.388	12.471	12.555	12.640	12.728	12.817
107	12.194	12.274	12.355	12.438	12.523	12.610	12.699
106	12.080	12.159	12.240	12.322	12.406	12.492	12.580
105	11.966	12.044	12.124	12.206	12.289	12.374	12.461
104	11.852	11.930	12.009	12.090	12.172	12.257	12.343
103	11.738	11.815	11.893	11.974	12.055	12.139	12.224
102	11.624	11.700	11.778	11.857	11.938	12.021	12.105
101	11.510	11.585	11.662	11.741	11.821	11.903	11.986
100	11.396	11.471	11.547	11.625	11.704	11.785	11.868
99	11.282	11.356	11.432	11.509	11.587	11.667	11.749
98	11.168	11.241	11.316	11.392	11.470	11.549	11.630
97	11.054	11.127	11.201	11.276	11.353	11.432	11.512
96	10.940	11.012	11.085	11.160	11.236	11.314	11.393
95	10.826	10.897	10.970	11.044	11.119	11.196	11.274
94	10.712	10.783	10.854	10.927	11.002	11.078	11.156
93	10.598	10.668	10.739	10.811	10.885	10.960	11.037
92	10.484	10.553	10.623	10.695	10.768	10.842	10.918
91	10.370	10.438	10.508	10.579	10.651	10.724	10.800
90	10.256	10.324	10.392	10.462	10.534	10.607	10.681
89	10.142	10.209	10.277	10.346	10.417	10.489	10.562
88	10.029	10.094	10.161	10.230	10.300	10.371	10.444
87	9.915	9.980	10.046	10.114	10.183	10.253	10.325
86	9.801	9.865	9.930	9.997	10.066	10.135	10.206
85	9.687	9.750	9.815	9.881	9.948	10.017	10.088
84	9.573	9.635	9.699	9.765	9.831	9.899	9.969
83	9.459	9.521	9.584	9.649	9.714	9.782	9.850
82	9.345	9.406	9.469	9.532	9.597	9.664	9.732
81	9.231	9.291	9.353	9.416	9.480	9.546	9.613

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	77	76	75	74	73	72	71
80	9.117	9.177	9.238	9,300	9,363	[illegible]	[illegible]
79	9.003	9.062	9.122	9,184	9,246	[illegible]	[illegible]
78	8.889	8.947	9.007	9,067	9.129	[illegible]	[illegible]
77	8.775	8.833	8.891	8.951	9.012	[illegible]	9.138
76	8.661	8.718	8.776	8,835	8.895	[illegible]	9.020
75	8.547	8.603	8.660	8.719	8.778	8.839	8.901
74	8.433	8.488	8.545	8,602	8.661	8.721	8.782
73	8.319	8.374	8.429	8.486	8.544	8.603	8.664
72	8.205	8.259	8.314	8.370	8.427	8.485	8.545
71	8.091	8.144	8.198	8.254	8.310	8.367	8.426
70	7.977	8.030	8.083	8,137	8.193	8.250	8.307
69	7.863	7.915	7.967	8.021	8.076	8.132	[illegible]
68	7.749	7.800	7.852	7.905	7.959	[illegible]	[illegible]
67	7.635	7.685	7.736	7.789	7.842	[illegible]	[illegible]
66	7.521	7.571	7.621	7,672	7.725	[illegible]	[illegible]
65	7.407	7.456	7.506	7,556	7.608	7.660	7.714
64	7.293	7.341	7.390	7,440	7.491	7.542	[illegible]
63	7.180	7.227	7.275	7.324	7.374	7.425	[illegible]
62	7.066	7.112	7.159	7.207	7.257	7.307	[illegible]
61	6.952	6.997	7.044	7,091	7.140	[illegible]	[illegible]
60	6.838	6.882	6.928	6,975	7,022	[illegible]	[illegible]
59	6.724	6.768	6.813	6,859	6.905	[illegible]	[illegible]
58	6.610	6.653	6.697	6,742	6.788	[illegible]	[illegible]
57	6.496	6.538	6.582	6,626	6.671	[illegible]	[illegible]
56	6.382	6.424	6.466	6,510	6.554	[illegible]	[illegible]
55	6.268	6.309	6.351	6.394	6.437	[illegible]	[illegible]
54	6.154	6.194	6.235	6.277	6.320	6.364	6.409
53	6.040	6.080	6.120	6,161	6.203	6.246	[illegible]
52	5.926	5.965	6.004	6.045	6.086	[illegible]	[illegible]
51	5.812	5.850	5.889	5.929	5.969	[illegible]	[illegible]
50	5.698	5.735	5.774	5,812	5,852	5.893	[illegible]
49	5.584	5.621	5.658	5.696	5,735	5.775	[illegible]
48	5.470	5.506	5.543	5,580	5.618	5.657	[illegible]
47	5.356	5.391	5.427	5.464	5,501	5.539	[illegible]
46	5.242	5.277	5.312	5,347	5.384	5.421	[illegible]

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	77	76	75	74	73	72	71
45	5.128	5.162	5.196	5.231	5.267	5.303	5.341
44	5.014	5.047	5.081	5.115	5.150	5.185	5.222
43	4.900	4.932	4.965	4.999	5.033	5.068	5.103
42	4.786	4.818	4.850	4.882	4.916	4.950	4.984
41	4.672	4.703	4.734	4.766	4.799	4.832	4.866
40	4.558	4.588	4.619	4.650	4.682	4.714	4.747
39	4.444	4.474	4.503	4.534	4.565	4.596	4.628
38	4.331	4.359	4.388	4.417	4.448	4.478	4.510
37	4.217	4.244	4.272	4.301	4.331	4.360	4.391
36	4.103	4.129	4.157	4.185	4.213	4.243	4.272
35	3.989	4.015	4.041	4.069	4.096	4.125	4.154
34	3.875	3.900	3.926	3.952	3.979	4.007	4.035
33	3.761	3.785	3.811	3.836	3.862	3.889	3.916
32	3.647	3.671	3.695	3.720	3.745	3.771	3.798
31	3.533	3.556	3.580	3.604	3.628	3.653	3.679
30	3.419	3.441	3.464	3.487	3.511	3.536	3.560
29	3.305	3.327	3.349	3.371	3.394	3.418	3.442
28	3.191	3.212	3.233	3.255	3.277	3.300	3.323
27	3.077	3.097	3.118	3.139	3.160	3.182	3.204
26	2.963	2.982	3.002	3.022	3.043	3.064	3.086
25	2.849	2.868	2.887	2.906	2.926	2.946	2.967
24	2.735	2.753	2.771	2.790	2.809	2.828	2.848
23	2.621	2.638	2.656	2.674	2.692	2.711	2.730
22	2.507	2.524	2.540	2.557	2.575	2.593	2.611
21	2.393	2.409	2.425	2.441	2.458	2.475	2.492
20	2.279	2.294	2.309	2.325	2.341	2.357	2.374
19	2.165	2.179	2.194	2.209	2.224	2.239	2.255
18	2.051	2.065	2.078	2.092	2.107	2.121	2.136
17	1.937	1.950	1.963	1.976	1.990	2.003	2.018
16	1.823	1.835	1.848	1.860	1.873	1.886	1.899
15	1.709	1.721	1.732	1.744	1.756	1.768	1.780
14	1.595	1.606	1.617	1.627	1.639	1.650	1.661
13	1.481	1.491	1.501	1.511	1.522	1.532	1.543
12	1.368	1.376	1.386	1.395	1.404	1.414	1.424
11	1.254	1.262	1.270	1.279	1.287	1.296	1.305

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	70	69	68	67	66	65	64
200	23.905	24.077	24.254	24.434	24.618	24.807	25.000
198	23.666	23.836	24.011	24.190	24.372	24.559	24.750
196	23.426	23.596	23.768	23.945	24.126	24.311	24.500
194	23.187	23.355	23.526	23.701	23.880	24.063	24.250
192	22.948	23.114	23.283	23.457	23.634	23.815	24.000
190	22.709	22.873	23.041	23.212	23.387	23.567	23.750
188	22.470	22.633	22.798	22.968	23.141	23.319	23.500
186	22.231	22.392	22.556	22.724	22.895	23.070	23.250
184	21.992	22.151	22.313	22.479	22.649	22.822	23.000
182	21.753	21.910	22.071	22.235	22.403	22.574	22.750
180	21.514	21.669	21.828	21.990	22.156	22.326	22.500
178	21.275	21.429	21.586	21.746	21.910	22.078	22.250
176	21.036	21.188	21.343	21.502	21.664	21.830	22.000
174	20.797	20.947	21.101	21.257	21.418	21.582	21.750
172	20.558	20.706	20.858	21.013	21.172	21.334	21.500
170	20.319	20.466	20.616	20.769	20.926	21.086	21.250
169	20.199	20.345	20.494	20.647	20.802	20.962	21.125
168	20.080	20.225	20.373	20.524	20.679	20.838	21.000
167	19.960	20.104	20.252	20.402	20.556	20.714	20.875
166	19.841	19.984	20.130	20.280	20.433	20.590	20.750
165	19.721	19.864	20.009	20.158	20.310	20.466	20.625
164	19.602	19.743	19.888	20.036	20.187	20.342	20.500
163	19.482	19.623	19.767	19.914	20.064	20.218	20.375
162	19.363	19.503	19.645	19.791	19.941	20.094	20.250
161	19.243	19.382	19.524	19.669	19.818	19.970	20.125
160	19.124	19.262	19.403	19.547	19.695	19.846	20.000
159	19.004	19.141	19.282	19.425	19.572	19.722	19.875
158	18.885	19.021	19.160	19.303	19.448	19.597	19.750
157	18.765	18.901	19.039	19.181	19.325	19.473	19.625
156	18.646	18.780	18.918	19.058	19.202	19.349	19.500
155	18.526	18.660	18.797	18.936	19.079	19.225	19.375
154	18.407	18.539	18.675	18.814	18.956	19.101	19.250
153	18.287	18.419	18.554	18.692	18.833	18.977	19.125
152	18.167	18.299	18.433	18.570	18.710	18.853	19.000
151	18.048	18.178	18.311	18.448	18.587	18.729	18.875

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	70	69	68	67	66	65	64
150	17.928	18.058	18.190	18.325	18.464	18.605	18.750
149	17.809	17.937	18.069	18.203	18.341	18.481	18.625
148	17.689	17.817	17.948	18.081	18.218	18.357	18.500
147	17.570	17.697	17.826	17.959	18.094	18.233	18.375
146	17.450	17.576	17.705	17.837	17.971	18.109	18.250
145	17.331	17.456	17.584	17.715	17.848	17.985	18.125
144	17.211	17.336	17.463	17.592	17.725	17.861	18.000
143	17.092	17.215	17.341	17.470	17.602	17.737	17.875
142	16.972	17.095	17.220	17.348	17.479	17.613	17.750
141	16.853	16.974	17.099	17.226	17.356	17.489	17.625
140	16.733	16.854	16.977	17.104	17.233	17.365	17.500
139	16.614	16.734	16.856	16.982	17.110	17.241	17.375
138	16.494	16.613	16.735	16.859	16.987	17.117	17.250
137	16.375	16.493	16.614	16.737	16.864	16.993	17.125
136	16.255	16.372	16.492	16.615	16.740	16.869	17.000
135	16.136	16.252	16.371	16.493	16.617	16.745	16.875
134	16.016	16.132	16.250	16.371	16.494	16.621	16.750
133	15.897	16.011	16.129	16.249	16.371	16.497	16.625
132	15.777	15.891	16.007	16.126	16.248	16.373	16.500
131	15.657	15.771	15.886	16.004	16.125	16.249	16.375
130	15.538	15.650	15.765	15.882	16.002	16.125	16.250
129	15.418	15.530	15.644	15.760	15.879	16.000	16.125
128	15.299	15.409	15.522	15.638	15.756	15.876	16.000
127	15.179	15.289	15.401	15.516	15.633	15.752	15.875
126	15.060	15.169	15.280	15.393	15.510	15.628	15.750
125	14.940	15.048	15.158	15.271	15.386	15.504	15.625
124	14.821	14.928	15.037	15.149	15.263	15.380	15.500
123	14.701	14.807	14.916	15.027	15.140	15.256	15.375
122	14.582	14.687	14.795	14.905	15.017	15.132	15.250
121	14.462	14.567	14.673	14.783	14.894	15.008	15.125
120	14.343	14.446	14.552	14.660	14.771	14.884	15.000
119	14.223	14.326	14.431	14.538	14.648	14.760	14.875
118	14.104	14.206	14.310	14.416	14.525	14.636	14.750
117	13.984	14.085	14.188	14.294	14.402	14.512	14.625
116	13.865	13.965	14.067	14.172	14.279	14.388	14.500

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	70	69	68	67	66	65	64
115	13.745	13.844	13.946	14.049	14.156	14.264	14.375
114	13.626	13.724	13.825	13.927	14.032	14.140	14.250
113	13.506	13.604	13.703	13.805	13.909	14.016	14.125
112	13.387	13.483	13.582	13.683	13.786	13.892	14.000
111	13.267	13.363	13.461	13.561	13.663	13.768	13.875
110	13.148	13.242	13.339	13.439	13.540	13.644	13.750
109	13.028	13.122	13.218	13.316	13.417	13.520	13.625
108	12.908	13.002	13.097	13.194	13.294	13.396	13.500
107	12.789	12.881	12.976	13.072	13.171	13.272	13.375
106	12.669	12.761	12.854	12.950	13.048	13.148	13.250
105	12.550	12.641	12.733	12.828	12.925	13.024	13.125
104	12.430	12.520	12.612	12.706	12.802	12.900	13.000
103	12.311	12.400	12.491	12.583	12.678	12.776	12.875
102	12.191	12.279	12.369	12.461	12.555	12.652	12.750
101	12.072	12.159	12.248	12.339	12.432	12.528	12.625
100	11.952	12.039	12.127	12.217	12.309	12.403	12.500
99	11.833	11.918	12.006	12.095	12.186	12.279	12.375
98	11.713	11.798	11.884	11.973	12.063	12.155	12.250
97	11.594	11.677	11.763	11.850	11.940	12.031	12.125
96	11.474	11.557	11.642	11.728	11.817	11.907	12.000
95	11.355	11.437	11.520	11.606	11.694	11.783	11.875
94	11.235	11.316	11.399	11.484	11.571	11.659	11.750
93	11.116	11.196	11.278	11.362	11.448	11.535	11.625
92	10.996	11.075	11.157	11.240	11.324	11.411	11.500
91	10.877	10.955	11.035	11.117	11.201	11.287	11.375
90	10.757	10.835	10.914	10.995	11.078	11.163	11.250
89	10.638	10.714	10.793	10.873	10.955	11.039	11.125
88	10.518	10.594	10.672	10.751	10.832	10.915	11.000
87	10.398	10.474	10.550	10.629	10.709	10.791	10.875
86	10.279	10.353	10.429	10.507	10.586	10.667	10.750
85	10.159	10.233	10.308	10.384	10.463	10.543	10.625
84	10.040	10.112	10.186	10.262	10.340	10.419	10.500
83	9.920	9.992	10.065	10.140	10.217	10.295	10.375
82	9.801	9.872	9.944	10.018	10.094	10.171	10.250
81	9.681	9.751	9.823	9.896	9.970	10.047	10.125

TABLE I (CONT.)

COVER FACTOR TABLE

	YARN NUMBERS						
TEXTURE	70	69	68	67	66	65	64
80	9.562	9.631	9.701	9.774	9.847	9.923	10.000
79	9.442	9.510	9.580	9.651	9.724	9.799	9.875
78	9.323	9.390	9.459	9.529	9.601	9.675	9.750
77	9.203	9.270	9.338	9.407	9.478	9.551	9.625
76	9.084	9.149	9.216	9.285	9.355	9.427	9.500
75	8.964	9.029	9.095	9.163	9.232	9.303	9.375
74	8.845	8.909	8.974	9.041	9.109	9.179	9.250
73	8.725	8.788	8.853	8.918	8.986	9.055	9.125
72	8.606	8.668	8.731	8.796	8.863	8.931	9.000
71	8.486	8.547	8.610	8.674	8.739	8.806	8.875
70	8.367	8.427	8.489	8.552	8.616	8.682	8.750
69	8.247	8.307	8.367	8.430	8.493	8.558	8.625
68	8.128	8.186	8.246	8.308	8.370	8.434	8.500
67	8.008	8.066	8.125	8.185	8.247	8.310	8.375
66	7.889	7.945	8.004	8.063	8.124	8.186	8.250
65	7.769	7.825	7.882	7.941	8.001	8.062	8.125
64	7.649	7.705	7.761	7.819	7.878	7.938	8.000
63	7.530	7.584	7.640	7.697	7.755	7.814	7.875
62	7.410	7.464	7.519	7.575	7.632	7.690	7.750
61	7.291	7.344	7.397	7.452	7.509	7.566	7.625
60	7.171	7.223	7.276	7.330	7.385	7.442	7.500
59	7.052	7.103	7.155	7.208	7.262	7.318	7.375
58	6.932	6.982	7.034	7.086	7.139	7.194	7.250
57	6.813	6.862	6.912	6.964	7.016	7.070	7.125
56	6.693	6.742	6.791	6.841	6.893	6.946	7.000
55	6.574	6.621	6.670	6.719	6.770	6.822	6.875
54	6.454	6.501	6.548	6.597	6.647	6.698	6.750
53	6.335	6.380	6.427	6.475	6.524	6.574	6.625
52	6.215	6.260	6.306	6.353	6.401	6.450	6.500
51	6.096	6.140	6.185	6.231	6.278	6.326	6.375
50	5.976	6.019	6.063	6.108	6.155	6.202	6.250
49	5.857	5.899	5.942	5.986	6.031	6.078	6.125
48	5.737	5.779	5.821	5.864	5.908	5.954	6.000
47	5.618	5.658	5.700	5.742	5.785	5.830	5.875
46	5.498	5.538	5.578	5.620	5.662	5.706	5.750

TABLE I (CONT.)

COVER FACTOR TABLE

	YARN NUMBERS						
TEXTURE	70	69	68	67	66	65	64
45	5.379	5.417	5.457	5.498	5.539	5.582	5.625
44	5.259	5.297	5.336	5.375	5.416	5.458	5.500
43	5.139	5.177	5.215	5.253	5.293	5.333	5.375
42	5.020	5.056	5.093	5.131	5.170	5.209	5.250
41	4.900	4.936	4.972	5.009	5.047	5.085	5.125
40	4.781	4.815	4.851	4.887	4.924	4.961	5.000
39	4.661	4.695	4.729	4.765	4.801	4.837	4.875
38	4.542	4.575	4.608	4.642	4.677	4.713	4.750
37	4.422	4.454	4.487	4.520	4.554	4.589	4.625
36	4.303	4.334	4.366	4.398	4.431	4.465	4.500
35	4.183	4.214	4.244	4.276	4.308	4.341	4.375
34	4.064	4.093	4.123	4.154	4.185	4.217	4.250
33	3.944	3.973	4.002	4.032	4.062	4.093	4.125
32	3.825	3.852	3.881	3.909	3.939	3.969	4.000
31	3.705	3.732	3.759	3.787	3.816	3.845	3.875
30	3.586	3.612	3.638	3.665	3.693	3.721	3.750
29	3.466	3.491	3.517	3.543	3.570	3.597	3.625
28	3.347	3.371	3.395	3.421	3.447	3.473	3.500
27	3.227	3.250	3.274	3.299	3.323	3.349	3.375
26	3.108	3.130	3.153	3.176	3.200	3.225	3.250
25	2.988	3.010	3.032	3.054	3.077	3.101	3.125
24	2.869	2.889	2.910	2.932	2.954	2.977	3.000
23	2.749	2.769	2.789	2.810	2.831	2.853	2.875
22	2.630	2.648	2.668	2.688	2.708	2.729	2.750
21	2.510	2.528	2.547	2.566	2.585	2.605	2.625
20	2.390	2.408	2.425	2.443	2.462	2.481	2.500
19	2.271	2.287	2.304	2.321	2.339	2.357	2.375
18	2.151	2.167	2.183	2.199	2.216	2.233	2.250
17	2.032	2.047	2.062	2.077	2.093	2.109	2.125
16	1.912	1.926	1.940	1.955	1.969	1.985	2.000
15	1.793	1.806	1.819	1.833	1.846	1.861	1.875
14	1.673	1.685	1.698	1.710	1.723	1.736	1.750
13	1.554	1.565	1.576	1.588	1.600	1.612	1.625
12	1.434	1.445	1.455	1.466	1.477	1.488	1.500
11	1.315	1.324	1.334	1.344	1.354	1.364	1.375

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 63	62	61	60	59	58	57
200	25.198	25.400	25.607	25.820	26.038	26.261	26.491
198	24.946	25.146	25.351	25.562	25.777	25.999	26.226
196	24.694	24.892	25.095	25.303	25.517	25.736	25.961
194	24.442	24.638	24.839	25.045	25.257	25.473	25.696
192	24.190	24.384	24.583	24.787	24.996	25.211	25.431
190	23.938	24.130	24.327	24.529	24.736	24.948	25.166
188	23.686	23.876	24.071	24.271	24.476	24.686	24.901
186	23.434	23.622	23.815	24.012	24.215	24.423	24.636
184	23.182	23.368	23.559	23.754	23.955	24.160	24.371
182	22.930	23.114	23.303	23.496	23.694	23.898	24.106
180	22.678	22.860	23.047	23.238	23.434	23.635	23.842
178	22.426	22.606	22.791	22.980	23.174	23.373	23.577
176	22.174	22.352	22.534	22.722	22.913	23.110	23.312
174	21.922	22.098	22.278	22.463	22.653	22.847	23.047
172	21.670	21.844	22.022	22.205	22.392	22.585	22.782
170	21.418	21.590	21.766	21.947	22.132	22.322	22.517
169	21.292	21.463	21.638	21.818	22.002	22.191	22.385
168	21.166	21.336	21.510	21.689	21.872	22.059	22.252
167	21.040	21.209	21.382	21.560	21.742	21.928	22.120
166	20.914	21.082	21.254	21.431	21.611	21.797	21.987
165	20.788	20.955	21.126	21.301	21.481	21.666	21.855
164	20.662	20.828	20.998	21.172	21.351	21.534	21.722
163	20.536	20.701	20.870	21.043	21.221	21.403	21.590
162	20.410	20.574	20.742	20.914	21.091	21.272	21.457
161	20.284	20.447	20.614	20.785	20.960	21.140	21.325
160	20.158	20.320	20.486	20.656	20.830	21.009	21.193
159	20.032	20.193	20.358	20.527	20.700	20.878	21.060
158	19.906	20.066	20.230	20.398	20.570	20.746	20.928
157	19.780	19.939	20.102	20.269	20.440	20.615	20.795
156	19.654	19.812	19.974	20.140	20.309	20.484	20.663
155	19.528	19.685	19.846	20.010	20.179	20.352	20.530
154	19.402	19.558	19.718	19.881	20.049	20.221	20.398
153	19.276	19.431	19.590	19.752	19.919	20.090	20.265
152	19.150	19.304	19.462	19.623	19.789	19.959	20.133
151	19.024	19.177	19.334	19.494	19.659	19.827	20.000

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	63	62	61	60	59	58	57
150	18.898	19.050	19.206	19.365	19.528	19.696	19.868
149	18.772	18.923	19.077	19.236	19.398	19.565	19.736
148	18.646	18.796	18.949	19.107	19.268	19.433	19.603
147	18.520	18.669	18.821	18.978	19.138	19.302	19.471
146	18.394	18.542	18.693	18.849	19.008	19.171	19.338
145	18.268	18.415	18.565	18.719	18.877	19.039	19.206
144	18.142	18.288	18.437	18.590	18.747	18.908	19.073
143	18.016	18.161	18.309	18.461	18.617	18.777	18.941
142	17.890	18.034	18.181	18.332	18.487	18.646	18.808
141	17.764	17.907	18.053	18.203	18.357	18.514	18.676
140	17.638	17.780	17.925	18.074	18.226	18.383	18.543
139	17.512	17.653	17.797	17.945	18.096	18.252	18.411
138	17.386	17.526	17.669	17.816	17.966	18.120	18.279
137	17.260	17.399	17.541	17.687	17.836	17.989	18.146
136	17.134	17.272	17.413	17.558	17.706	17.858	18.014
135	17.008	17.145	17.285	17.428	17.576	17.726	17.881
134	16.882	17.018	17.157	17.299	17.445	17.595	17.749
133	16.756	16.891	17.029	17.170	17.315	17.464	17.616
132	16.630	16.764	16.901	17.041	17.185	17.332	17.484
131	16.504	16.637	16.773	16.912	17.055	17.201	17.351
130	16.378	16.510	16.645	16.783	16.925	17.070	17.219
129	16.252	16.383	16.517	16.654	16.794	16.939	17.086
128	16.126	16.256	16.389	16.525	16.664	16.807	16.954
127	16.000	16.129	16.261	16.396	16.534	16.676	16.822
126	15.875	16.002	16.133	16.267	16.404	16.545	16.689
125	15.749	15.875	16.005	16.137	16.274	16.413	16.557
124	15.623	15.748	15.877	16.008	16.143	16.282	16.424
123	15.497	15.621	15.749	15.879	16.013	16.151	16.292
122	15.371	15.494	15.620	15.750	15.883	16.019	16.159
121	15.245	15.367	15.492	15.621	15.753	15.888	16.027
120	15.119	15.240	15.364	15.492	15.623	15.757	15.894
119	14.993	15.113	15.236	15.363	15.492	15.625	15.762
118	14.867	14.986	15.108	15.234	15.362	15.494	15.629
117	14.741	14.859	14.980	15.105	15.232	15.363	15.497
116	14.615	14.732	14.852	14.976	15.102	15.232	15.365

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	63	62	61	60	59	58	57
115	14.489	14.605	14.724	14.846	14.972	15.100	15.232
114	14.363	14.478	14.596	14.717	14.842	14.969	15.100
113	14.237	14.351	14.468	14.588	14.711	14.838	14.967
112	14.111	14.224	14.340	14.459	14.581	14.706	14.835
111	13.985	14.097	14.212	14.330	14.451	14.575	14.702
110	13.859	13.970	14.084	14.201	14.321	14.444	14.570
109	13.733	13.843	13.956	14.072	14.191	14.312	14.437
108	13.607	13.716	13.828	13.943	14.060	14.181	14.305
107	13.481	13.589	13.700	13.814	13.930	14.050	14.172
106	13.355	13.462	13.572	13.685	13.800	13.918	14.040
105	13.229	13.335	13.444	13.555	13.670	13.787	13.908
104	13.103	13.208	13.316	13.426	13.540	13.656	13.775
103	12.977	13.081	13.188	13.297	13.409	13.525	13.643
102	12.851	12.954	13.060	13.168	13.279	13.393	13.510
101	12.725	12.827	12.932	13.039	13.149	13.262	13.378
100	12.599	12.700	12.804	12.910	13.019	13.131	13.245
99	12.473	12.573	12.676	12.781	12.889	12.999	13.113
98	12.347	12.446	12.548	12.652	12.759	12.868	12.980
97	12.221	12.319	12.420	12.523	12.628	12.737	12.848
96	12.095	12.192	12.292	12.394	12.498	12.605	12.716
95	11.969	12.065	12.164	12.264	12.368	12.474	12.583
94	11.843	11.938	12.035	12.135	12.238	12.343	12.451
93	11.717	11.811	11.907	12.006	12.108	12.211	12.318
92	11.591	11.684	11.779	11.877	11.977	12.080	12.186
91	11.465	11.557	11.651	11.748	11.847	11.949	12.053
90	11.339	11.430	11.523	11.619	11.717	11.818	11.921
89	11.213	11.303	11.395	11.490	11.587	11.686	11.788
88	11.087	11.176	11.267	11.361	11.457	11.555	11.656
87	10.961	11.049	11.139	11.232	11.326	11.424	11.523
86	10.835	10.922	11.011	11.103	11.196	11.292	11.391
85	10.709	10.795	10.883	10.973	11.066	11.161	11.259
84	10.583	10.668	10.755	10.844	10.936	11.030	11.126
83	10.457	10.541	10.627	10.715	10.806	10.898	10.994
82	10.331	10.414	10.499	10.586	10.675	10.767	10.861
81	10.205	10.287	10.371	10.457	10.545	10.636	10.729

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	63	62	61	60	59	58	57
80	10.079	10.160	10.243	10.328	10.415	10.505	10.596
79	9.953	10.033	10.115	10.199	10.285	10.373	10.464
78	9.827	9.906	9.987	10.070	10.155	10.242	10.331
77	9.701	9.779	9.859	9.941	10.025	10.111	10.199
76	9.575	9.652	9.731	9.812	9.894	9.979	10.066
75	9.449	9.525	9.603	9.682	9.764	9.848	9.934
74	9.323	9.398	9.475	9.553	9.634	9.717	9.802
73	9.197	9.271	9.347	9.424	9.504	9.585	9.669
72	9.071	9.144	9.219	9.295	9.374	9.454	9.537
71	8.945	9.017	9.091	9.166	9.243	9.323	9.404
70	8.819	8.890	8.963	9.037	9.113	9.191	9.272
69	8.693	8.763	8.835	8.908	8.983	9.060	9.139
68	8.567	8.636	8.707	8.779	8.853	8.929	9.007
67	8.441	8.509	8.578	8.650	8.723	8.798	8.874
66	8.315	8.382	8.450	8.521	8.592	8.666	8.742
65	8.189	8.255	8.322	8.391	8.462	8.535	8.609
64	8.063	8.128	8.194	8.262	8.332	8.404	8.477
63	7.937	8.001	8.066	8.133	8.202	8.272	8.345
62	7.811	7.874	7.938	8.004	8.072	8.141	8.212
61	7.685	7.747	7.810	7.875	7.942	8.010	8.080
60	7.559	7.620	7.682	7.746	7.811	7.878	7.947
59	7.433	7.493	7.554	7.617	7.681	7.747	7.815
58	7.307	7.366	7.426	7.488	7.551	7.616	7.682
57	7.181	7.239	7.298	7.359	7.421	7.484	7.550
56	7.055	7.112	7.170	7.230	7.291	7.353	7.417
55	6.929	6.985	7.042	7.100	7.160	7.222	7.285
54	6.803	6.858	6.914	6.971	7.030	7.091	7.152
53	6.677	6.731	6.786	6.842	6.900	6.959	7.020
52	6.551	6.604	6.658	6.713	6.770	6.828	6.888
51	6.425	6.477	6.530	6.584	6.640	6.697	6.755
50	6.299	6.350	6.402	6.455	6.509	6.565	6.623
49	6.173	6.223	6.274	6.326	6.379	6.434	6.490
48	6.047	6.096	6.146	6.197	6.249	6.303	6.358
47	5.921	5.969	6.018	6.068	6.119	6.171	6.225
46	5.795	5.842	5.890	5.939	5.989	6.040	6.093

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	63	62	61	60	59	58	57
45	5.669	5.715	5.762	5.809	5.859	5.909	5.960
44	5.543	5.588	5.634	5.680	5.728	5.777	5.828
43	5.417	5.461	5.506	5.551	5.598	5.646	5.695
42	5.292	5.334	5.378	5.422	5.468	5.515	5.563
41	5.166	5.207	5.250	5.293	5.338	5.384	5.431
40	5.040	5.080	5.121	5.164	5.208	5.252	5.298
39	4.914	4.953	4.993	5.035	5.077	5.121	5.166
38	4.788	4.826	4.865	4.906	4.947	4.990	5.033
37	4.662	4.699	4.737	4.777	4.817	4.858	4.901
36	4.536	4.572	4.609	4.648	4.687	4.727	4.768
35	4.410	4.445	4.481	4.518	4.557	4.596	4.636
34	4.284	4.318	4.353	4.389	4.426	4.464	4.503
33	4.158	4.191	4.225	4.260	4.296	4.333	4.371
32	4.032	4.064	4.097	4.131	4.166	4.202	4.239
31	3.906	3.937	3.969	4.002	4.036	4.070	4.106
30	3.780	3.810	3.841	3.873	3.906	3.939	3.974
29	3.654	3.683	3.713	3.744	3.775	3.808	3.841
28	3.528	3.556	3.585	3.615	3.645	3.677	3.709
27	3.402	3.429	3.457	3.486	3.515	3.545	3.576
26	3.276	3.302	3.329	3.357	3.385	3.414	3.444
25	3.150	3.175	3.201	3.227	3.255	3.283	3.311
24	3.024	3.048	3.073	3.098	3.125	3.151	3.179
23	2.898	2.921	2.945	2.969	2.994	3.020	3.046
22	2.772	2.794	2.817	2.840	2.864	2.889	2.914
21	2.646	2.667	2.689	2.711	2.734	2.757	2.782
20	2.520	2.540	2.561	2.582	2.604	2.626	2.649
19	2.394	2.413	2.433	2.453	2.474	2.495	2.517
18	2.268	2.286	2.305	2.324	2.343	2.364	2.384
17	2.142	2.159	2.177	2.195	2.213	2.232	2.252
16	2.016	2.032	2.049	2.066	2.083	2.101	2.119
15	1.890	1.905	1.921	1.936	1.953	1.970	1.987
14	1.764	1.778	1.793	1.807	1.823	1.838	1.854
13	1.638	1.651	1.664	1.678	1.692	1.707	1.722
12	1.512	1.524	1.536	1.549	1.562	1.576	1.589
11	1.386	1.397	1.408	1.420	1.432	1.444	1.457

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	56	55	54	53	52	51	50
200	26.726	26.968	27.217	27.472	27.735	28.006	28.284
198	26.459	26.698	26.944	27.197	27.458	27.726	28.001
196	26.192	26.429	26.672	26.923	27.180	27.445	27.719
194	25.924	26.159	26.400	26.648	26.903	27.165	27.436
192	25.657	25.889	26.128	26.373	26.626	26.885	27.153
190	25.390	25.620	25.856	26.099	26.348	26.605	26.870
188	25.123	25.350	25.584	25.824	26.071	26.325	26.587
186	24.855	25.080	25.311	25.549	25.794	26.045	26.304
184	24.588	24.811	25.039	25.274	25.516	25.765	26.022
182	24.321	24.541	24.767	25.000	25.239	25.485	25.739
180	24.054	24.271	24.495	24.725	24.962	25.205	25.456
178	23.786	24.002	24.223	24.450	24.684	24.925	25.173
176	23.519	23.732	23.951	24.175	24.407	24.645	24.890
174	23.252	23.462	23.678	23.901	24.129	24.365	24.607
172	22.984	23.192	23.406	23.626	23.852	24.085	24.324
170	22.717	22.923	23.134	23.351	23.575	23.805	24.042
169	22.584	22.788	22.998	23.214	23.436	23.665	23.900
168	22.450	22.653	22.862	23.077	23.297	23.525	23.759
167	22.316	22.518	22.726	22.939	23.159	23.385	23.617
166	22.183	22.383	22.590	22.802	23.020	23.245	23.476
165	22.049	22.249	22.454	22.664	22.881	23.105	23.335
164	21.915	22.114	22.318	22.527	22.743	22.965	23.193
163	21.782	21.979	22.181	22.390	22.604	22.825	23.052
162	21.648	21.844	22.045	22.252	22.465	22.685	22.910
161	21.515	21.709	21.909	22.115	22.327	22.545	22.769
160	21.381	21.574	21.773	21.978	22.188	22.404	22.627
159	21.247	21.440	21.637	21.840	22.049	22.264	22.486
158	21.114	21.305	21.501	21.703	21.911	22.124	22.345
157	20.980	21.170	21.365	21.566	21.772	21.984	22.203
156	20.846	21.035	21.229	21.428	21.633	21.844	22.062
155	20.713	20.900	21.093	21.291	21.495	21.704	21.920
154	20.579	20.765	20.957	21.154	21.356	21.564	21.779
153	20.445	20.631	20.821	21.016	21.217	21.424	21.637
152	20.312	20.496	20.685	20.879	21.079	21.284	21.496
151	20.178	20.361	20.548	20.741	20.940	21.144	21.355

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 56	55	54	53	52	51	50
150	20.045	20.226	20.412	20.604	20.801	21.004	21.213
149	19.911	20.091	20.276	20.467	20.663	20.864	21.072
148	19.777	19.956	20.140	20.329	20.524	20.724	20.930
147	19.644	19.821	20.004	20.192	20.385	20.584	20.789
146	19.510	19.687	19.868	20.055	20.247	20.444	20.648
145	19.376	19.552	19.732	19.917	20.108	20.304	20.506
144	19.243	19.417	19.596	19.780	19.969	20.164	20.365
143	19.109	19.282	19.460	19.643	19.831	20.024	20.223
142	18.976	19.147	19.324	19.505	19.692	19.884	20.082
141	18.842	19.012	19.188	19.368	19.553	19.744	19.940
140	18.708	18.878	19.052	19.230	19.415	19.604	19.799
139	18.575	18.743	18.916	19.093	19.276	19.464	19.658
138	18.441	18.608	18.779	18.956	19.137	19.324	19.516
137	18.307	18.473	18.643	18.818	18.998	19.184	19.375
136	18.174	18.338	18.507	18.681	18.860	19.044	19.233
135	18.040	18.203	18.371	18.544	18.721	18.904	19.092
134	17.907	18.069	18.235	18.406	18.582	18.764	18.950
133	17.773	17.934	18.099	18.269	18.444	18.624	18.809
132	17.639	17.799	17.963	18.132	18.305	18.484	18.668
131	17.506	17.664	17.827	17.994	18.166	18.344	18.526
130	17.372	17.529	17.691	17.857	18.028	18.204	18.385
129	17.238	17.394	17.555	17.720	17.889	18.064	18.243
128	17.105	17.260	17.419	17.582	17.750	17.924	18.102
127	16.971	17.125	17.283	17.445	17.612	17.784	17.961
126	16.837	16.990	17.146	17.307	17.473	17.644	17.819
125	16.704	16.855	17.010	17.170	17.334	17.504	17.678
124	16.570	16.720	16.874	17.033	17.196	17.363	17.536
123	16.437	16.585	16.738	16.895	17.057	17.223	17.395
122	16.303	16.450	16.602	16.758	16.918	17.083	17.253
121	16.169	16.316	16.466	16.621	16.780	16.943	17.112
120	16.036	16.181	16.330	16.483	16.641	16.803	16.971
119	15.902	16.046	16.194	16.346	16.502	16.663	16.829
118	15.768	15.911	16.058	16.209	16.364	16.523	16.688
117	15.635	15.776	15.922	16.071	16.225	16.383	16.546
116	15.501	15.641	15.786	15.934	16.086	16.243	16.405

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	56	55	54	53	52	51	50
115	15.368	15.507	15.650	15.796	15.948	16.103	16.263
114	15.234	15.372	15.513	15.659	15.809	15.963	16.122
113	15.100	15.237	15.377	15.522	15.670	15.823	15.981
112	14.967	15.102	15.241	15.384	15.532	15.683	15.839
111	14.833	14.967	15.105	15.247	15.393	15.543	15.698
110	14.699	14.832	14.969	15.110	15.254	15.403	15.556
109	14.566	14.698	14.833	14.972	15.116	15.263	15.415
108	14.432	14.563	14.697	14.835	14.977	15.123	15.274
107	14.298	14.428	14.561	14.698	14.838	14.983	15.132
106	14.165	14.293	14.425	14.560	14.700	14.843	14.991
105	14.031	14.158	14.289	14.423	14.561	14.703	14.849
104	13.898	14.023	14.153	14.285	14.422	14.563	14.708
103	13.764	13.889	14.017	14.148	14.284	14.423	14.566
102	13.630	13.754	13.880	14.011	14.145	14.283	14.425
101	13.497	13.619	13.744	13.873	14.006	14.143	14.284
100	13.363	13.484	13.608	13.736	13.868	14.003	14.142
99	13.229	13.349	13.472	13.599	13.729	13.863	14.001
98	13.096	13.214	13.336	13.461	13.590	13.723	13.859
97	12.962	13.079	13.200	13.324	13.451	13.583	13.718
96	12.829	12.945	13.064	13.187	13.313	13.443	13.576
95	12.695	12.810	12.928	13.049	13.174	13.303	13.435
94	12.561	12.675	12.792	12.912	13.035	13.163	13.294
93	12.428	12.540	12.656	12.775	12.897	13.023	13.152
92	12.294	12.405	12.520	12.637	12.758	12.883	13.011
91	12.160	12.270	12.384	12.500	12.619	12.743	12.869
90	12.027	12.136	12.247	12.362	12.481	12.603	12.728
89	11.893	12.001	12.111	12.225	12.342	12.462	12.587
88	11.759	11.866	11.975	12.088	12.203	12.322	12.445
87	11.626	11.731	11.839	11.950	12.065	12.182	12.304
86	11.492	11.596	11.703	11.813	11.926	12.042	12.162
85	11.359	11.461	11.567	11.676	11.787	11.902	12.021
84	11.225	11.327	11.431	11.538	11.649	11.762	11.879
83	11.091	11.192	11.295	11.401	11.510	11.622	11.738
82	10.958	11.057	11.159	11.264	11.371	11.482	11.597
81	10.824	10.922	11.023	11.126	11.233	11.342	11.455

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 56	55	54	53	52	51	50
80	10.690	10.787	10.887	10.989	11.094	11.202	11.314
79	10.557	10.652	10.751	10.851	10.955	11.062	11.172
78	10.423	10.518	10.614	10.714	10.817	10.922	11.031
77	10.290	10.383	10.478	10.577	10.678	10.782	10.889
76	10.156	10.248	10.342	10.439	10.539	10.642	10.748
75	10.022	10.113	10.206	10.302	10.401	10.502	10.607
74	9.889	9.978	10.070	10.165	10.262	10.362	10.465
73	9.755	9.843	9.934	10.027	10.123	10.222	10.324
72	9.621	9.708	9.798	9.890	9.985	10.082	10.182
71	9.488	9.574	9.662	9.753	9.846	9.942	10.041
70	9.354	9.439	9.526	9.615	9.707	9.802	9.899
69	9.221	9.304	9.390	9.478	9.569	9.662	9.758
68	9.087	9.169	9.254	9.341	9.430	9.522	9.617
67	8.953	9.034	9.118	9.203	9.291	9.382	9.475
66	8.820	8.899	8.981	9.066	9.153	9.242	9.334
65	8.686	8.765	8.845	8.928	9.014	9.102	9.192
64	8.552	8.630	8.709	8.791	8.875	8.962	9.051
63	8.419	8.495	8.573	8.654	8.737	8.822	8.910
62	8.285	8.360	8.437	8.516	8.598	8.682	8.768
61	8.151	8.225	8.301	8.379	8.459	8.542	8.627
60	8.018	8.090	8.165	8.242	8.321	8.402	8.485
59	7.884	7.956	8.029	8.104	8.182	8.262	8.344
58	7.751	7.821	7.893	7.967	8.043	8.122	8.202
57	7.617	7.686	7.757	7.830	7.904	7.982	8.061
56	7.483	7.551	7.621	7.692	7.766	7.842	7.920
55	7.350	7.416	7.485	7.555	7.627	7.702	7.778
54	7.216	7.281	7.348	7.417	7.488	7.562	7.637
53	7.082	7.147	7.212	7.280	7.350	7.421	7.495
52	6.949	7.012	7.076	7.143	7.211	7.281	7.354
51	6.815	6.877	6.940	7.005	7.072	7.141	7.212
50	6.682	6.742	6.804	6.868	6.934	7.001	7.071
49	6.548	6.607	6.668	6.731	6.795	6.861	6.930
48	6.414	6.472	6.532	6.593	6.656	6.721	6.788
47	6.281	6.337	6.396	6.456	6.518	6.581	6.647
46	6.147	6.203	6.260	6.319	6.379	6.441	6.505

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	56	55	54	53	52	51	50
45	6.013	6.068	6.124	6.181	6.240	6.301	6.364
44	5.880	5.933	5.988	6.044	6.102	6.161	6.223
43	5.746	5.798	5.852	5.907	5.963	6.021	6.081
42	5.612	5.663	5.715	5.769	5.824	5.881	5.940
41	5.479	5.528	5.579	5.632	5.686	5.741	5.798
40	5.345	5.394	5.443	5.494	5.547	5.601	5.657
39	5.212	5.259	5.307	5.357	5.408	5.461	5.515
38	5.078	5.124	5.171	5.220	5.270	5.321	5.374
37	4.944	4.989	5.035	5.082	5.131	5.181	5.233
36	4.811	4.854	4.899	4.945	4.992	5.041	5.091
35	4.677	4.719	4.763	4.808	4.854	4.901	4.950
34	4.543	4.585	4.627	4.670	4.715	4.761	4.808
33	4.410	4.450	4.491	4.533	4.576	4.621	4.667
32	4.276	4.315	4.355	4.396	4.438	4.481	4.525
31	4.143	4.180	4.219	4.258	4.299	4.341	4.384
30	4.009	4.045	4.082	4.121	4.160	4.201	4.243
29	3.875	3.910	3.946	3.983	4.022	4.061	4.101
28	3.742	3.776	3.810	3.846	3.883	3.921	3.960
27	3.608	3.641	3.674	3.709	3.744	3.781	3.818
26	3.474	3.506	3.538	3.571	3.606	3.641	3.677
25	3.341	3.371	3.402	3.434	3.467	3.501	3.536
24	3.207	3.236	3.266	3.297	3.328	3.361	3.394
23	3.074	3.101	3.130	3.159	3.190	3.221	3.253
22	2.940	2.966	2.994	3.022	3.051	3.081	3.111
21	2.806	2.832	2.858	2.885	2.912	2.941	2.970
20	2.673	2.697	2.722	2.747	2.774	2.801	2.828
19	2.539	2.562	2.586	2.610	2.635	2.661	2.687
18	2.405	2.427	2.449	2.472	2.496	2.521	2.546
17	2.272	2.292	2.313	2.335	2.357	2.380	2.404
16	2.138	2.157	2.177	2.198	2.219	2.240	2.263
15	2.004	2.023	2.041	2.060	2.080	2.100	2.121
14	1.871	1.888	1.905	1.923	1.941	1.960	1.980
13	1.737	1.753	1.769	1.786	1.803	1.820	1.838
12	1.604	1.618	1.633	1.648	1.664	1.680	1.697
11	1.470	1.483	1.497	1.511	1.525	1.540	1.556

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	49	48	47	46	45	44	43
200	28.571	28.868	29.173	29.488	29.814	30.151	30.500
198	28.286	28.579	28.881	29.194	29.516	29.850	30.195
196	28.000	28.290	28.590	28.899	29.218	29.548	29.890
194	27.714	28.001	28.298	28.604	28.920	29.247	29.585
192	27.429	27.713	28.006	28.309	28.622	28.945	29.280
190	27.143	27.424	27.714	28.014	28.324	28.644	28.975
188	26.857	27.135	27.423	27.719	28.025	28.342	28.670
186	26.571	26.847	27.131	27.424	27.727	28.041	28.365
184	26.286	26.558	26.839	27.129	27.429	27.739	28.060
182	26.000	26.269	26.547	26.834	27.131	27.438	27.755
180	25.714	25.981	26.256	26.540	26.833	27.136	27.450
178	25.429	25.692	25.964	26.245	26.535	26.835	27.145
176	25.143	25.403	25.672	25.950	26.237	26.533	26.840
174	24.857	25.115	25.381	25.655	25.938	26.231	26.535
172	24.571	24.826	25.089	25.360	25.640	25.930	26.230
170	24.286	24.537	24.797	25.065	25.342	25.628	25.925
169	24.143	24.393	24.651	24.918	25.193	25.478	25.772
168	24.000	24.249	24.505	24.770	25.044	25.327	25.620
167	23.857	24.104	24.359	24.623	24.895	25.176	25.467
166	23.714	23.960	24.214	24.475	24.746	25.025	25.315
165	23.571	23.816	24.068	24.328	24.597	24.875	25.162
164	23.429	23.671	23.922	24.180	24.448	24.724	25.010
163	23.286	23.527	23.776	24.033	24.299	24.573	24.857
162	23.143	23.383	23.630	23.886	24.150	24.422	24.705
161	23.000	23.238	23.484	23.738	24.000	24.272	24.552
160	22.857	23.094	23.338	23.591	23.851	24.121	24.400
159	22.714	22.950	23.193	23.443	23.702	23.970	24.247
158	22.571	22.805	23.047	23.296	23.553	23.819	24.095
157	22.429	22.661	22.901	23.148	23.404	23.669	23.942
156	22.286	22.517	22.755	23.001	23.255	23.518	23.790
155	22.143	22.372	22.609	22.854	23.106	23.367	23.637
154	22.000	22.228	22.463	22.706	22.957	23.216	23.485
153	21.857	22.084	22.317	22.559	22.808	23.066	23.332
152	21.714	21.939	22.171	22.411	22.659	22.915	23.180
151	21.571	21.795	22.026	22.264	22.510	22.764	23.027

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 49	48	47	46	45	44	43
150	21.429	21.651	21.880	22.116	22.361	22.613	22.875
149	21.286	21.506	21.734	21.969	22.212	22.463	22.722
148	21.143	21.362	21.588	21.821	22.063	22.312	22.570
147	21.000	21.218	21.442	21.674	21.913	22.161	22.417
146	20.857	21.073	21.296	21.527	21.764	22.010	22.265
145	20.714	20.929	21.150	21.379	21.615	21.860	22.112
144	20.571	20.785	21.005	21.232	21.466	21.709	21.960
143	20.429	20.640	20.859	21.084	21.317	21.558	21.807
142	20.286	20.496	20.713	20.937	21.168	21.407	21.655
141	20.143	20.352	20.567	20.789	21.019	21.257	21.502
140	20.000	20.207	20.421	20.642	20.870	21.106	21.350
139	19.857	20.063	20.275	20.494	20.721	20.955	21.197
138	19.714	19.919	20.129	20.347	20.572	20.804	21.045
137	19.571	19.774	19.984	20.200	20.423	20.654	20.892
136	19.429	19.630	19.838	20.052	20.274	20.503	20.740
135	19.286	19.486	19.692	19.905	20.125	20.352	20.587
134	19.143	19.341	19.546	19.757	19.976	20.201	20.435
133	19.000	19.197	19.400	19.610	19.826	20.051	20.282
132	18.857	19.053	19.254	19.462	19.677	19.900	20.130
131	18.714	18.908	19.108	19.315	19.528	19.749	19.977
130	18.571	18.764	18.962	19.167	19.379	19.598	19.825
129	18.429	18.620	18.817	19.020	19.230	19.447	19.672
128	18.286	18.475	18.671	18.873	19.081	19.297	19.520
127	18.143	18.331	18.525	18.725	18.932	19.146	19.367
126	18.000	18.187	18.379	18.578	18.783	18.995	19.215
125	17.857	18.042	18.233	18.430	18.634	18.844	19.062
124	17.714	17.898	18.087	18.283	18.485	18.694	18.910
123	17.571	17.754	17.941	18.135	18.336	18.543	18.757
122	17.429	17.609	17.796	17.988	18.187	18.392	18.605
121	17.286	17.465	17.650	17.840	18.038	18.241	18.452
120	17.143	17.321	17.504	17.693	17.889	18.091	18.300
119	17.000	17.176	17.358	17.546	17.739	17.940	18.147
118	16.857	17.032	17.212	17.398	17.590	17.789	17.995
117	16.714	16.887	17.066	17.251	17.441	17.638	17.842
116	16.571	16.743	16.920	17.103	17.292	17.488	17.690

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	49	48	47	46	45	44	43
115	16.429	16.599	16.774	16.956	17.143	17.337	17.537
114	16.286	16.454	16.629	16.808	16.994	17.186	17.385
113	16.143	16.310	16.483	16.661	16.845	17.035	17.232
112	16.000	16.166	16.337	16.513	16.696	16.885	17.080
111	15.857	16.021	16.191	16.366	16.547	16.734	16.927
110	15.714	15.877	16.045	16.219	16.398	16.583	16.775
109	15.571	15.733	15.899	16.071	16.249	16.432	16.622
108	15.429	15.588	15.753	15.924	16.100	16.282	16.470
107	15.286	15.444	15.608	15.776	15.951	16.131	16.317
106	15.143	15.300	15.462	15.629	15.802	15.980	16.165
105	15.000	15.155	15.316	15.481	15.652	15.829	16.012
104	14.857	15.011	15.170	15.334	15.503	15.679	15.860
103	14.714	14.867	15.024	15.187	15.354	15.528	15.707
102	14.571	14.722	14.878	15.039	15.205	15.377	15.555
101	14.429	14.578	14.732	14.892	15.056	15.226	15.402
100	14.286	14.434	14.586	14.744	14.907	15.076	15.250
99	14.143	14.289	14.441	14.597	14.758	14.925	15.097
98	14.000	14.145	14.295	14.449	14.609	14.774	14.945
97	13.857	14.001	14.149	14.302	14.460	14.623	14.792
96	13.714	13.856	14.003	14.154	14.311	14.473	14.640
95	13.571	13.712	13.857	14.007	14.162	14.322	14.487
94	13.429	13.568	13.711	13.860	14.013	14.171	14.335
93	13.286	13.423	13.565	13.712	13.864	14.020	14.182
92	13.143	13.279	13.420	13.565	13.715	13.870	14.030
91	13.000	13.135	13.274	13.417	13.565	13.719	13.877
90	12.857	12.990	13.128	13.270	13.416	13.568	13.725
89	12.714	12.846	12.982	13.122	13.267	13.417	13.572
88	12.571	12.702	12.836	12.975	13.118	13.266	13.420
87	12.429	12.557	12.690	12.827	12.969	13.116	13.267
86	12.286	12.413	12.544	12.680	12.820	12.965	13.115
85	12.143	12.269	12.399	12.533	12.671	12.814	12.962
84	12.000	12.124	12.253	12.385	12.522	12.663	12.810
83	11.857	11.980	12.107	12.238	12.373	12.513	12.657
82	11.714	11.836	11.961	12.090	12.224	12.362	12.505
81	11.571	11.691	11.815	11.943	12.075	12.211	12.352

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	49	48	47	46	45	44	43
80	11.429	11.547	11.669	11.795	11.926	12.060	12.200
79	11.286	11.403	11.523	11.648	11.777	11.910	12.047
78	11.143	11.258	11.377	11.500	11.628	11.759	11.895
77	11.000	11.114	11.232	11.353	11.478	11.608	11.742
76	10.857	10.970	11.086	11.206	11.329	11.457	11.590
75	10.714	10.825	10.940	11.058	11.180	11.307	11.437
74	10.571	10.681	10.794	10.911	11.031	11.156	11.285
73	10.429	10.537	10.648	10.763	10.882	11.005	11.132
72	10.286	10.392	10.502	10.616	10.733	10.854	10.980
71	10.143	10.248	10.356	10.468	10.584	10.704	10.827
70	10.000	10.104	10.211	10.321	10.435	10.553	10.675
69	9.857	9.959	10.065	10.173	10.286	10.402	10.522
68	9.714	9.815	9.919	10.026	10.137	10.251	10.370
67	9.571	9.671	9.773	9.879	9.988	10.101	10.217
66	9.429	9.526	9.627	9.731	9.839	9.950	10.065
65	9.286	9.382	9.481	9.584	9.690	9.799	9.912
64	9.143	9.238	9.335	9.436	9.541	9.648	9.760
63	9.000	9.093	9.189	9.289	9.391	9.498	9.607
62	8.857	8.949	9.044	9.141	9.242	9.347	9.455
61	8.714	8.805	8.898	8.994	9.093	9.196	9.302
60	8.571	8.660	8.752	8.847	8.944	9.045	9.150
59	8.429	8.516	8.606	8.699	8.795	8.895	8.997
58	8.286	8.372	8.460	8.552	8.646	8.744	8.845
57	8.143	8.227	8.314	8.404	8.497	8.593	8.692
56	8.000	8.083	8.168	8.257	8.348	8.442	8.540
55	7.857	7.939	8.023	8.109	8.199	8.292	8.387
54	7.714	7.794	7.877	7.962	8.050	8.141	8.235
53	7.571	7.650	7.731	7.814	7.901	7.990	8.082
52	7.429	7.506	7.585	7.667	7.752	7.839	7.930
51	7.286	7.361	7.439	7.520	7.603	7.689	7.777
50	7.143	7.217	7.293	7.372	7.454	7.538	7.625
49	7.000	7.073	7.147	7.225	7.304	7.387	7.472
48	6.857	6.928	7.002	7.077	7.155	7.236	7.320
47	6.714	6.784	6.856	6.930	7.006	7.086	7.167
46	6.571	6.640	6.710	6.782	6.857	6.935	7.015

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	49	48	47	46	45	44	43
45	6.429	6.495	6.564	6.635	6.708	6.784	6.862
44	6.286	6.351	6.418	6.487	6.559	6.633	6.710
43	6.143	6.207	6.272	6.340	6.410	6.482	6.557
42	6.000	6.062	6.126	6.193	6.261	6.332	6.405
41	5.857	5.918	5.980	6.045	6.112	6.181	6.252
40	5.714	5.774	5.835	5.898	5.963	6.030	6.100
39	5.571	5.629	5.689	5.750	5.814	5.879	5.947
38	5.429	5.485	5.543	5.603	5.665	5.729	5.795
37	5.286	5.340	5.397	5.455	5.516	5.578	5.642
36	5.143	5.196	5.251	5.308	5.367	5.427	5.490
35	5.000	5.052	5.105	5.160	5.217	5.276	5.337
34	4.857	4.907	4.959	5.013	5.068	5.126	5.185
33	4.714	4.763	4.814	4.866	4.919	4.975	5.032
32	4.571	4.619	4.668	4.718	4.770	4.824	4.880
31	4.429	4.474	4.522	4.571	4.621	4.673	4.727
30	4.286	4.330	4.376	4.423	4.472	4.523	4.575
29	4.143	4.186	4.230	4.276	4.323	4.372	4.422
28	4.000	4.041	4.084	4.128	4.174	4.221	4.270
27	3.857	3.897	3.938	3.981	4.025	4.070	4.117
26	3.714	3.753	3.792	3.833	3.876	3.920	3.965
25	3.571	3.608	3.647	3.686	3.727	3.769	3.812
24	3.429	3.464	3.501	3.539	3.578	3.618	3.660
23	3.286	3.320	3.355	3.391	3.429	3.467	3.507
22	3.143	3.175	3.209	3.244	3.280	3.317	3.355
21	3.000	3.031	3.063	3.096	3.130	3.166	3.202
20	2.857	2.887	2.917	2.949	2.981	3.015	3.050
19	2.714	2.742	2.771	2.801	2.832	2.864	2.897
18	2.571	2.598	2.626	2.654	2.683	2.714	2.745
17	2.429	2.454	2.480	2.507	2.534	2.563	2.592
16	2.286	2.309	2.334	2.359	2.385	2.412	2.440
15	2.143	2.165	2.188	2.212	2.236	2.261	2.287
14	2.000	2.021	2.042	2.064	2.087	2.111	2.135
13	1.857	1.876	1.896	1.917	1.938	1.960	1.982
12	1.714	1.732	1.750	1.769	1.789	1.809	1.830
11	1.571	1.588	1.605	1.622	1.640	1.658	1.677

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 42	41	40	39	38	37	36
200	30.861	31.235	31.623	32.026	32.444	32.880	33.333
198	30.552	30.922	31.307	31.705	32.120	32.551	33.000
196	30.243	30.610	30.990	31.385	31.795	32.222	32.667
194	29.935	30.298	30.674	31.065	31.471	31.893	32.333
192	29.626	29.985	30.358	30.745	31.147	31.565	32.000
190	29.318	29.673	30.042	30.424	30.822	31.236	31.667
188	29.009	29.361	29.725	30.104	30.498	30.907	31.333
186	28.700	29.048	29.409	29.784	30.173	30.578	31.000
184	28.392	28.736	29.093	29.464	29.849	30.249	30.667
182	28.083	28.424	28.777	29.143	29.524	29.921	30.333
180	27.775	28.111	28.460	28.823	29.200	29.592	30.000
178	27.466	27.799	28.144	28.503	28.875	29.263	29.667
176	27.157	27.487	27.828	28.183	28.551	28.934	29.333
174	26.849	27.174	27.512	27.862	28.227	28.605	29.000
172	26.540	26.862	27.196	27.542	27.902	28.277	28.667
170	26.232	26.550	26.879	27.222	27.578	27.948	28.333
169	26.077	26.393	26.721	27.062	27.415	27.783	28.167
168	25.923	26.237	26.563	26.902	27.253	27.619	28.000
167	25.769	26.081	26.405	26.741	27.091	27.455	27.833
166	25.614	25.925	26.247	26.581	26.929	27.290	27.667
165	25.460	25.769	26.089	26.421	26.767	27.126	27.500
164	25.306	25.612	25.931	26.261	26.604	26.961	27.333
163	25.151	25.456	25.773	26.101	26.442	26.797	27.167
162	24.997	25.300	25.614	25.941	26.280	26.633	27.000
161	24.843	25.144	25.456	25.781	26.118	26.468	26.833
160	24.689	24.988	25.298	25.621	25.955	26.304	26.667
159	24.534	24.832	25.140	25.460	25.793	26.139	26.500
158	24.380	24.675	24.982	25.300	25.631	25.975	26.333
157	24.226	24.519	24.824	25.140	25.469	25.811	26.167
156	24.071	24.363	24.666	24.980	25.307	25.646	26.000
155	23.917	24.207	24.508	24.820	25.144	25.482	25.833
154	23.763	24.051	24.350	24.660	24.982	25.317	25.667
153	23.608	23.895	24.191	24.500	24.820	25.153	25.500
152	23.454	23.738	24.033	24.339	24.658	24.989	25.333
151	23.300	23.582	23.875	24.179	24.495	24.824	25.167

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	42	41	40	39	38	37	36
150	23.146	23.426	23.717	24.019	24.333	24.660	25.000
149	22.991	23.270	23.559	23.859	24.171	24.495	24.833
148	22.837	23.114	23.401	23.699	24.009	24.331	24.667
147	22.683	22.958	23.243	23.539	23.847	24.167	24.500
146	22.528	22.801	23.085	23.379	23.684	24.002	24.333
145	22.374	22.645	22.927	23.219	23.522	23.838	24.167
144	22.220	22.489	22.768	23.058	23.360	23.673	24.000
143	22.065	22.333	22.610	22.898	23.198	23.509	23.833
142	21.911	22.177	22.452	22.738	23.035	23.345	23.667
141	21.757	22.021	22.294	22.578	22.873	23.180	23.500
140	21.602	21.864	22.136	22.418	22.711	23.016	23.333
139	21.448	21.708	21.978	22.258	22.549	22.851	23.167
138	21.294	21.552	21.820	22.098	22.387	22.687	23.000
137	21.140	21.396	21.662	21.938	22.224	22.523	22.833
136	20.985	21.240	21.503	21.777	22.062	22.358	22.667
135	20.831	21.083	21.345	21.617	21.900	22.194	22.500
134	20.677	20.927	21.187	21.457	21.738	22.029	22.333
133	20.522	20.771	21.029	21.297	21.575	21.865	22.167
132	20.368	20.615	20.871	21.137	21.413	21.701	22.000
131	20.214	20.459	20.713	20.977	21.251	21.536	21.833
130	20.059	20.303	20.555	20.817	21.089	21.372	21.667
129	19.905	20.146	20.397	20.657	20.927	21.207	21.500
128	19.751	19.990	20.239	20.496	20.764	21.043	21.333
127	19.597	19.834	20.080	20.336	20.602	20.879	21.167
126	19.442	19.678	19.922	20.176	20.440	20.714	21.000
125	19.288	19.522	19.764	20.016	20.278	20.550	20.833
124	19.134	19.366	19.606	19.856	20.115	20.385	20.667
123	18.979	19.209	19.448	19.696	19.953	20.221	20.500
122	18.825	19.053	19.290	19.536	19.791	20.057	20.333
121	18.671	18.897	19.132	19.376	19.629	19.892	20.167
120	18.516	18.741	18.974	19.215	19.467	19.728	20.000
119	18.362	18.585	18.816	19.055	19.304	19.563	19.833
118	18.208	18.429	18.657	18.895	19.142	19.399	19.667
117	18.053	18.272	18.499	18.735	18.980	19.235	19.500
116	17.899	18.116	18.341	18.575	18.818	19.070	19.333

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	42	41	40	39	38	37	36
115	17.745	17.960	18.183	18.415	18.655	18.906	19.167
114	17.591	17.804	18.025	18.255	18.493	18.741	19.000
113	17.436	17.648	17.867	18.094	18.331	18.577	18.833
112	17.282	17.491	17.709	17.934	18.169	18.413	18.667
111	17.128	17.335	17.551	17.774	18.007	18.248	18.500
110	16.973	17.179	17.393	17.614	17.844	18.084	18.333
109	16.819	17.023	17.234	17.454	17.682	17.919	18.167
108	16.665	16.867	17.076	17.294	17.520	17.755	18.000
107	16.510	16.711	16.918	17.134	17.358	17.591	17.833
106	16.356	16.554	16.760	16.974	17.195	17.426	17.667
105	16.202	16.398	16.602	16.813	17.033	17.262	17.500
104	16.048	16.242	16.444	16.653	16.871	17.097	17.333
103	15.893	16.086	16.286	16.493	16.709	16.933	17.167
102	15.739	15.930	16.128	16.333	16.547	16.769	17.000
101	15.585	15.774	15.970	16.173	16.384	16.604	16.833
100	15.430	15.617	15.811	16.013	16.222	16.440	16.667
99	15.276	15.461	15.653	15.853	16.060	16.275	16.500
98	15.122	15.305	15.495	15.693	15.898	16.111	16.333
97	14.967	15.149	15.337	15.532	15.735	15.947	16.167
96	14.813	14.993	15.179	15.372	15.573	15.782	16.000
95	14.659	14.837	15.021	15.212	15.411	15.618	15.833
94	14.505	14.680	14.863	15.052	15.249	15.454	15.667
93	14.350	14.524	14.705	14.892	15.087	15.289	15.500
92	14.196	14.368	14.546	14.732	14.924	15.125	15.333
91	14.042	14.212	14.388	14.572	14.762	14.960	15.167
90	13.887	14.056	14.230	14.412	14.600	14.796	15.000
89	13.733	13.899	14.072	14.251	14.438	14.632	14.833
88	13.579	13.743	13.914	14.091	14.275	14.467	14.667
87	13.424	13.587	13.756	13.931	14.113	14.303	14.500
86	13.270	13.431	13.598	13.771	13.951	14.138	14.333
85	13.116	13.275	13.440	13.611	13.789	13.974	14.167
84	12.961	13.119	13.282	13.451	13.627	13.810	14.000
83	12.807	12.962	13.123	13.291	13.464	13.645	13.833
82	12.653	12.806	12.965	13.131	13.302	13.481	13.667
81	12.499	12.650	12.807	12.970	13.140	13.316	13.500

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	42	41	40	39	38	37	36
80	12.344	12.494	12.649	12.810	12.978	13.152	13.333
79	12.190	12.338	12.491	12.650	12.815	12.988	13.167
78	12.036	12.182	12.333	12.490	12.653	12.823	13.000
77	11.881	12.025	12.175	12.330	12.491	12.659	12.833
76	11.727	11.869	12.017	12.170	12.329	12.494	12.667
75	11.573	11.713	11.859	12.010	12.167	12.330	12.500
74	11.418	11.557	11.700	11.849	12.004	12.166	12.333
73	11.264	11.401	11.542	11.689	11.842	12.001	12.167
72	11.110	11.245	11.384	11.529	11.680	11.837	12.000
71	10.956	11.088	11.226	11.369	11.518	11.672	11.833
70	10.801	10.932	11.068	11.209	11.355	11.508	11.667
69	10.647	10.776	10.910	11.049	11.193	11.344	11.500
68	10.493	10.620	10.752	10.889	11.031	11.179	11.333
67	10.338	10.464	10.594	10.729	10.869	11.015	11.167
66	10.184	10.307	10.436	10.568	10.707	10.850	11.000
65	10.030	10.151	10.277	10.408	10.544	10.686	10.833
64	9.875	9.995	10.119	10.248	10.382	10.522	10.667
63	9.721	9.839	9.961	10.088	10.220	10.357	10.500
62	9.567	9.683	9.803	9.928	10.058	10.193	10.333
61	9.413	9.527	9.645	9.768	9.896	10.028	10.167
60	9.258	9.370	9.487	9.608	9.733	9.864	10.000
59	9.104	9.214	9.329	9.448	9.571	9.700	9.833
58	8.950	9.058	9.171	9.287	9.409	9.535	9.667
57	8.795	8.902	9.012	9.127	9.247	9.371	9.500
56	8.641	8.746	8.854	8.967	9.084	9.206	9.333
55	8.487	8.590	8.696	8.807	8.922	9.042	9.167
54	8.332	8.433	8.538	8.647	8.760	8.878	9.000
53	8.178	8.277	8.380	8.487	8.598	8.713	8.833
52	8.024	8.121	8.222	8.327	8.436	8.549	8.667
51	7.869	7.965	8.064	8.167	8.273	8.384	8.500
50	7.715	7.809	7.906	8.006	8.111	8.220	8.333
49	7.561	7.653	7.748	7.846	7.949	8.056	8.167
48	7.407	7.496	7.589	7.686	7.787	7.891	8.000
47	7.252	7.340	7.431	7.526	7.624	7.727	7.833
46	7.098	7.184	7.273	7.366	7.462	7.562	7.667

TABLE I (CONT.)

COVER FACTOR TABLE

	YARN NUMBERS						
TEXTURE	42	41	40	39	38	37	36
45	6.944	7.028	7.115	7.206	7.300	7.398	7.500
44	6.789	6.872	6.957	7.046	7.138	7.234	7.333
43	6.635	6.715	6.799	6.886	6.976	7.069	7.167
42	6.481	6.559	6.641	6.725	6.813	6.905	7.000
41	6.326	6.403	6.483	6.565	6.651	6.740	6.833
40	6.172	6.247	6.325	6.405	6.489	6.576	6.667
39	6.018	6.091	6.166	6.245	6.327	6.412	6.500
38	5.864	5.935	6.008	6.085	6.164	6.247	6.333
37	5.709	5.778	5.850	5.925	6.002	6.083	6.167
36	5.555	5.622	5.692	5.765	5.840	5.918	6.000
35	5.401	5.466	5.534	5.604	5.678	5.754	5.833
34	5.246	5.310	5.376	5.444	5.516	5.590	5.667
33	5.092	5.154	5.218	5.284	5.353	5.425	5.500
32	4.938	4.998	5.060	5.124	5.191	5.261	5.333
31	4.783	4.841	4.902	4.964	5.029	5.096	5.167
30	4.629	4.685	4.743	4.804	4.867	4.932	5.000
29	4.475	4.529	4.585	4.644	4.704	4.768	4.833
28	4.320	4.373	4.427	4.484	4.542	4.603	4.667
27	4.166	4.217	4.269	4.323	4.380	4.439	4.500
26	4.012	4.061	4.111	4.163	4.218	4.274	4.333
25	3.858	3.904	3.953	4.003	4.056	4.110	4.167
24	3.703	3.748	3.795	3.843	3.893	3.946	4.000
23	3.549	3.592	3.637	3.683	3.731	3.781	3.833
22	3.395	3.436	3.479	3.523	3.569	3.617	3.667
21	3.240	3.280	3.320	3.363	3.407	3.452	3.500
20	3.086	3.123	3.162	3.203	3.244	3.288	3.333
19	2.932	2.967	3.004	3.042	3.082	3.124	3.167
18	2.777	2.811	2.846	2.882	2.920	2.959	3.000
17	2.623	2.655	2.688	2.722	2.758	2.795	2.833
16	2.469	2.499	2.530	2.562	2.596	2.630	2.667
15	2.315	2.343	2.372	2.402	2.433	2.466	2.500
14	2.160	2.186	2.214	2.242	2.271	2.302	2.333
13	2.006	2.030	2.055	2.082	2.109	2.137	2.167
12	1.852	1.874	1.897	1.922	1.947	1.973	2.000
11	1.697	1.718	1.739	1.761	1.784	1.808	1.833

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	35	34	33	32	31	30	29
200	33.806	34.300	34.816	35.355	35.921	36.515	37.139
198	33.468	33.957	34.467	35.002	35.562	36.150	36.768
196	33.130	33.614	34.119	34.648	35.203	35.785	36.396
194	32.792	33.271	33.771	34.295	34.843	35.419	36.025
192	32.454	32.926	33.423	33.941	34.484	35.054	35.654
190	32.116	32.585	33.075	33.588	34.125	34.689	35.282
188	31.778	32.242	32.727	33.234	33.766	34.324	34.911
186	31.440	31.899	32.378	32.880	33.407	33.959	34.539
184	31.102	31.556	32.030	32.527	33.047	33.594	34.168
182	30.764	31.213	31.682	32.173	32.688	33.229	33.797
180	30.426	30.870	31.334	31.820	32.329	32.863	33.425
178	30.087	30.527	30.986	31.466	31.970	32.498	33.054
176	29.749	30.184	30.638	31.113	31.611	32.133	32.682
174	29.411	29.841	30.290	30.759	31.251	31.768	32.311
172	29.073	29.498	29.941	30.406	30.892	31.403	31.940
170	28.735	29.155	29.593	30.052	30.533	31.038	31.568
169	28.566	28.983	29.419	29.875	30.353	30.855	31.383
168	28.397	28.812	29.245	29.698	30.174	30.672	31.197
167	28.228	28.640	29.071	29.522	29.994	30.490	31.011
166	28.059	28.469	28.897	29.345	29.814	30.307	30.825
165	27.890	28.297	28.723	29.168	29.635	30.125	30.640
164	27.721	28.126	28.549	28.991	29.455	29.942	30.454
163	27.552	27.954	28.375	28.815	29.276	29.760	30.268
162	27.383	27.783	28.201	28.638	29.096	29.577	30.083
161	27.214	27.611	28.027	28.461	28.916	29.394	29.897
160	27.045	27.440	27.852	28.284	28.737	29.212	29.711
159	26.876	27.268	27.678	28.107	28.557	29.029	29.526
158	26.707	27.097	27.504	27.931	28.378	28.847	29.340
157	26.538	26.925	27.330	27.754	28.198	28.664	29.154
156	26.369	26.754	27.156	27.577	28.018	28.482	28.968
155	26.200	26.582	26.982	27.400	27.839	28.299	28.783
154	26.031	26.411	26.808	27.224	27.659	28.116	28.597
153	25.862	26.239	26.634	27.047	27.480	27.934	28.411
152	25.693	26.068	26.460	26.870	27.300	27.751	28.226
151	25.524	25.896	26.286	26.693	27.120	27.569	28.040

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	35	34	33	32	31	30	29
150	25.355	25.725	26.112	26.517	26.941	27.386	27.854
149	25.186	25.553	25.938	26.340	26.761	27.204	27.669
148	25.017	25.382	25.763	26.163	26.582	27.021	27.483
147	24.848	25.210	25.589	25.986	26.402	26.838	27.297
146	24.679	25.039	25.415	25.809	26.222	26.656	27.113
145	24.509	24.867	25.241	25.633	26.043	26.473	26.926
144	24.340	24.696	25.067	25.456	25.863	26.291	26.740
143	24.171	24.524	24.893	25.279	25.684	26.108	26.554
142	24.002	24.353	24.719	25.102	25.504	25.926	26.369
141	23.833	24.181	24.545	24.926	25.324	25.743	26.183
140	23.664	24.010	24.371	24.749	25.145	25.560	25.997
139	23.495	23.838	24.197	24.572	24.965	25.378	25.811
138	23.326	23.667	24.023	24.395	24.786	25.195	25.626
137	23.157	23.495	23.849	24.218	24.606	25.013	25.440
136	22.988	23.324	23.675	24.042	24.426	24.830	25.255
135	22.819	23.152	23.500	23.865	24.247	24.648	25.069
134	22.650	22.981	23.326	23.688	24.067	24.465	24.883
133	22.481	22.809	23.152	23.511	23.888	24.282	24.697
132	22.312	22.638	22.978	23.335	23.708	24.100	24.512
131	22.143	22.466	22.804	23.158	23.528	23.917	24.326
130	21.974	22.295	22.630	22.981	23.349	23.735	24.140
129	21.805	22.123	22.456	22.804	23.169	23.552	23.955
128	21.636	21.952	22.282	22.627	22.989	23.369	23.769
127	21.467	21.780	22.108	22.451	22.810	23.187	23.583
126	21.298	21.609	21.934	22.274	22.630	23.004	23.398
125	21.129	21.437	21.760	22.097	22.451	22.822	23.212
124	20.960	21.266	21.586	21.920	22.271	22.639	23.026
123	20.791	21.094	21.412	21.744	22.091	22.457	22.841
122	20.622	20.923	21.237	21.567	21.912	22.274	22.655
121	20.453	20.751	21.063	21.390	21.732	22.091	22.469
120	20.284	20.580	20.889	21.213	21.553	21.909	22.283
119	20.115	20.408	20.715	21.036	21.373	21.726	22.098
118	19.946	20.237	20.541	20.860	21.193	21.544	21.912
117	19.777	20.065	20.367	20.683	21.014	21.361	21.726
116	19.608	19.894	20.193	20.506	20.834	21.179	21.541

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	35	34	33	32	31	30	29
115	19.439	19.722	20.019	20.329	20.655	20.996	21.355
114	19.270	19.551	19.845	20.153	20.475	20.813	21.169
113	19.100	19.379	19.671	19.976	20.295	20.631	20.984
112	18.931	19.208	19.497	19.799	20.116	20.448	20.798
111	18.762	19.036	19.323	19.622	19.936	20.266	20.612
110	18.593	18.865	19.149	19.445	19.757	20.083	20.426
109	18.424	18.693	18.974	19.269	19.577	19.901	20.241
108	18.255	18.522	18.800	19.092	19.397	19.718	20.055
107	18.086	18.350	18.626	18.915	19.218	19.535	19.869
106	17.917	18.179	18.452	18.738	19.038	19.353	19.684
105	17.748	18.007	18.278	18.562	18.859	19.170	19.498
104	17.579	17.836	18.104	18.385	18.679	18.988	19.312
103	17.410	17.664	17.930	18.208	18.499	18.805	19.127
102	17.241	17.493	17.756	18.031	18.320	18.623	18.941
101	17.072	17.321	17.582	17.854	18.140	18.440	18.755
100	16.903	17.150	17.408	17.678	17.961	18.257	18.570
99	16.734	16.978	17.234	17.501	17.781	18.075	18.384
98	16.565	16.807	17.060	17.324	17.601	17.892	18.198
97	16.396	16.635	16.886	17.147	17.422	17.710	18.012
96	16.227	16.464	16.711	16.971	17.242	17.527	17.827
95	16.058	16.292	16.537	16.794	17.063	17.345	17.641
94	15.889	16.121	16.363	16.617	16.883	17.162	17.455
93	15.720	15.949	16.189	16.440	16.703	16.979	17.270
92	15.551	15.778	16.015	16.263	16.524	16.797	17.084
91	15.382	15.606	15.841	16.087	16.344	16.614	16.898
90	15.213	15.435	15.667	15.910	16.164	16.432	16.713
89	15.044	15.263	15.493	15.733	15.985	16.249	16.527
88	14.875	15.092	15.319	15.556	15.805	16.067	16.341
87	14.706	14.920	15.145	15.380	15.626	15.884	16.155
86	14.537	14.749	14.971	15.203	15.446	15.701	15.970
85	14.368	14.577	14.797	15.026	15.266	15.519	15.784
84	14.199	14.406	14.623	14.849	15.087	15.336	15.598
83	14.030	14.234	14.448	14.672	14.907	15.154	15.413
82	13.861	14.063	14.274	14.496	14.728	14.971	15.227
81	13.691	13.891	14.100	14.319	14.548	14.789	15.041

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	35	34	33	32	31	30	29
80	13.522	13.720	13.926	14.142	14.368	14.606	14.856
79	13.353	13.548	13.752	13.965	14.189	14.423	14.670
78	13.184	13.377	13.578	13.789	14.009	14.241	14.484
77	13.015	13.205	13.404	13.612	13.830	14.058	14.299
76	12.846	13.034	13.230	13.435	13.650	13.876	14.113
75	12.677	12.862	13.056	13.258	13.470	13.693	13.927
74	12.508	12.691	12.882	13.081	13.291	13.510	13.741
73	12.339	12.519	12.708	12.905	13.111	13.328	13.556
72	12.170	12.348	12.534	12.728	12.932	13.145	13.370
71	12.001	12.176	12.360	12.551	12.752	12.963	13.184
70	11.832	12.005	12.185	12.374	12.572	12.780	12.999
69	11.663	11.833	12.011	12.198	12.393	12.598	12.813
68	11.494	11.662	11.837	12.021	12.213	12.415	12.627
67	11.325	11.490	11.663	11.844	12.034	12.232	12.442
66	11.156	11.319	11.489	11.667	11.854	12.050	12.256
65	10.987	11.147	11.315	11.490	11.674	11.867	12.070
64	10.818	10.976	11.141	11.314	11.495	11.685	11.885
63	10.649	10.804	10.967	11.137	11.315	11.502	11.699
62	10.480	10.633	10.793	10.960	11.136	11.320	11.513
61	10.311	10.461	10.619	10.783	10.956	11.137	11.327
60	10.142	10.290	10.445	10.607	10.776	10.954	11.142
59	9.973	10.118	10.271	10.430	10.597	10.772	10.956
58	9.804	9.947	10.097	10.253	10.417	10.589	10.770
57	9.635	9.775	9.922	10.076	10.238	10.407	10.585
56	9.466	9.604	9.748	9.899	10.058	10.224	10.399
55	9.297	9.432	9.574	9.723	9.878	10.042	10.213
54	9.128	9.261	9.400	9.546	9.699	9.859	10.028
53	8.959	9.089	9.226	9.369	9.519	9.676	9.842
52	8.790	8.918	9.052	9.192	9.339	9.494	9.656
51	8.621	8.746	8.878	9.016	9.160	9.311	9.470
50	8.452	8.575	8.704	8.839	8.980	9.129	9.285
49	8.283	8.403	8.530	8.662	8.801	8.946	9.099
48	8.113	8.232	8.356	8.485	8.621	8.764	8.913
47	7.944	8.060	8.182	8.309	8.441	8.581	8.728
46	7.775	7.889	8.008	8.132	8.262	8.398	8.542

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	35	34	33	32	31	30	29
45	7.606	7.717	7.833	7.955	8.082	8.216	8.356
44	7.437	7.546	7.659	7.778	7.903	8.033	8.171
43	7.268	7.374	7.485	7.601	7.723	7.851	7.985
42	7.099	7.203	7.311	7.425	7.543	7.668	7.799
41	6.930	7.031	7.137	7.248	7.364	7.486	7.614
40	6.761	6.860	6.963	7.071	7.184	7.303	7.428
39	6.592	6.688	6.789	6.894	7.005	7.120	7.242
38	6.423	6.517	6.615	6.718	6.825	6.938	7.056
37	6.254	6.345	6.441	6.541	6.645	6.755	6.871
36	6.085	6.174	6.267	6.364	6.466	6.573	6.685
35	5.916	6.002	6.093	6.187	6.286	6.390	6.499
34	5.747	5.831	5.919	6.010	6.107	6.208	6.314
33	5.578	5.659	5.745	5.834	5.927	6.025	6.128
32	5.409	5.488	5.570	5.657	5.747	5.842	5.942
31	5.240	5.316	5.396	5.480	5.568	5.660	5.757
30	5.071	5.145	5.222	5.303	5.388	5.477	5.571
29	4.902	4.973	5.048	5.127	5.209	5.295	5.385
28	4.733	4.802	4.874	4.950	5.029	5.112	5.199
27	4.564	4.630	4.700	4.773	4.849	4.930	5.014
26	4.395	4.459	4.526	4.596	4.670	4.747	4.828
25	4.226	4.287	4.352	4.419	4.490	4.564	4.642
24	4.057	4.116	4.178	4.243	4.311	4.382	4.457
23	3.888	3.944	4.004	4.066	4.131	4.199	4.271
22	3.719	3.773	3.830	3.889	3.951	4.017	4.085
21	3.550	3.601	3.656	3.712	3.772	3.834	3.900
20	3.381	3.430	3.482	3.536	3.592	3.651	3.714
19	3.212	3.258	3.307	3.359	3.413	3.469	3.528
18	3.043	3.087	3.133	3.182	3.233	3.286	3.343
17	2.874	2.915	2.959	3.005	3.053	3.104	3.157
16	2.704	2.744	2.785	2.828	2.874	2.921	2.971
15	2.535	2.572	2.611	2.652	2.694	2.739	2.785
14	2.366	2.401	2.437	2.475	2.514	2.556	2.600
13	2.197	2.229	2.263	2.298	2.335	2.373	2.414
12	2.028	2.058	2.089	2.121	2.155	2.191	2.228
11	1.859	1.886	1.915	1.945	1.976	2.008	2.043

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 28	27	26	25	24	23	22
200	37.796	38.490	39.223	40.000	40.825	41.703	42.640
198	37.418	38.105	38.831	39.600	40.417	41.286	42.214
196	37.041	37.720	38.439	39.200	40.008	40.869	41.787
194	36.663	37.335	38.047	38.800	39.600	40.452	41.361
192	36.285	36.950	37.654	38.400	39.192	40.035	40.935
190	35.907	36.566	37.262	38.000	38.784	39.618	40.508
188	35.529	36.181	36.870	37.600	38.375	39.201	40.082
186	35.151	35.796	36.478	37.200	37.967	38.784	39.655
184	34.773	35.411	36.085	36.800	37.559	38.367	39.229
182	34.395	35.026	35.693	36.400	37.151	37.950	38.803
180	34.017	34.641	35.301	36.000	36.742	37.533	38.376
178	33.639	34.256	34.909	35.600	36.334	37.116	37.950
176	33.261	33.871	34.516	35.200	35.926	36.699	37.523
174	32.883	33.486	34.124	34.800	35.518	36.282	37.097
172	32.505	33.101	33.732	34.400	35.109	35.864	36.671
170	32.127	32.717	33.340	34.000	34.701	35.447	36.244
169	31.938	32.524	33.144	33.800	34.497	35.239	36.031
168	31.749	32.332	32.948	33.600	34.293	35.030	35.818
167	31.560	32.139	32.751	33.400	34.089	34.822	35.605
166	31.371	31.947	32.555	33.200	33.885	34.613	35.391
165	31.182	31.754	32.359	33.000	33.680	34.405	35.178
164	30.993	31.562	32.163	32.800	33.476	34.196	34.965
163	30.804	31.369	31.967	32.600	33.272	33.988	34.752
162	30.615	31.177	31.771	32.400	33.068	33.779	34.539
161	30.426	30.984	31.575	32.200	32.864	33.571	34.325
160	30.237	30.792	31.379	32.000	32.660	33.362	34.112
159	30.048	30.600	31.182	31.800	32.456	33.154	33.899
158	29.859	30.407	30.986	31.600	32.252	32.945	33.686
157	29.670	30.215	30.790	31.400	32.047	32.737	33.473
156	29.481	30.022	30.594	31.200	31.843	32.528	33.259
155	29.292	29.830	30.398	31.000	31.639	32.320	33.046
154	29.103	29.637	30.202	30.800	31.435	32.111	32.833
153	28.914	29.445	30.006	30.600	31.231	31.903	32.620
152	28.725	29.252	29.810	30.400	31.027	31.694	32.407
151	28.536	29.060	29.614	30.200	30.823	31.486	32.193

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	28	27	26	25	24	23	22
150	28.347	28.868	29.417	30.000	30.619	31.277	31.980
149	28.158	28.675	29.221	29.800	30.414	31.069	31.767
148	27.969	28.483	29.025	29.600	30.210	30.860	31.554
147	27.780	28.290	28.829	29.400	30.006	30.652	31.341
146	27.591	28.098	28.633	29.200	29.802	30.443	31.127
145	27.402	27.905	28.437	29.000	29.598	30.235	30.914
144	27.213	27.713	28.241	28.800	29.394	30.026	30.701
143	27.024	27.520	28.045	28.600	29.190	29.818	30.488
142	26.835	27.328	27.848	28.400	28.986	29.609	30.275
141	26.646	27.135	27.652	28.200	28.782	29.401	30.061
140	26.458	26.943	27.456	28.000	28.577	29.192	29.848
139	26.269	26.751	27.260	27.800	28.373	28.984	29.635
138	26.080	26.558	27.064	27.600	28.169	28.775	29.422
137	25.891	26.366	26.868	27.400	27.965	28.566	29.208
136	25.702	26.173	26.672	27.200	27.761	28.358	28.995
135	25.513	25.981	26.476	27.000	27.557	28.149	28.782
134	25.324	25.788	26.280	26.800	27.353	27.941	28.569
133	25.135	25.596	26.083	26.600	27.149	27.732	28.356
132	24.946	25.403	25.887	26.400	26.944	27.524	28.142
131	24.757	25.211	25.691	26.200	26.740	27.315	27.929
130	24.568	25.019	25.495	26.000	26.536	27.107	27.716
129	24.379	24.826	25.299	25.800	26.332	26.898	27.503
128	24.190	24.634	25.103	25.600	26.128	26.690	27.290
127	24.001	24.441	24.907	25.400	25.924	26.481	27.076
126	23.812	24.249	24.711	25.200	25.720	26.273	26.863
125	23.623	24.056	24.515	25.000	25.516	26.064	26.650
124	23.434	23.864	24.318	24.800	25.311	25.856	26.437
123	23.245	23.671	24.122	24.600	25.107	25.647	26.224
122	23.056	23.479	23.926	24.400	24.903	25.439	26.010
121	22.867	23.286	23.730	24.200	24.699	25.230	25.797
120	22.678	23.094	23.534	24.000	24.495	25.022	25.584
119	22.489	22.902	23.338	23.800	24.291	24.813	25.371
118	22.300	22.709	23.142	23.600	24.087	24.605	25.158
117	22.111	22.517	22.946	23.400	23.883	24.396	24.944
116	21.922	22.324	22.749	23.200	23.678	24.188	24.731

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	28	27	26	25	24	23	22
115	21.733	22.132	22.553	23.000	23.474	23.979	24.518
114	21.544	21.939	22.357	22.800	23.270	23.771	24.305
113	21.355	21.747	22.161	22.600	23.066	23.562	24.092
112	21.166	21.554	21.965	22.400	22.862	23.354	23.878
111	20.977	21.362	21.769	22.200	22.658	23.145	23.665
110	20.788	21.170	21.573	22.000	22.454	22.937	23.452
109	20.599	20.977	21.377	21.800	22.250	22.728	23.239
108	20.410	20.785	21.181	21.600	22.045	22.520	23.026
107	20.221	20.592	20.984	21.400	21.841	22.311	22.812
106	20.032	20.400	20.788	21.200	21.637	22.103	22.599
105	19.843	20.207	20.592	21.000	21.433	21.894	22.386
104	19.654	20.015	20.396	20.800	21.229	21.685	22.173
103	19.465	19.822	20.200	20.600	21.025	21.477	21.960
102	19.276	19.630	20.004	20.400	20.821	21.268	21.746
101	19.087	19.437	19.808	20.200	20.617	21.060	21.533
100	18.898	19.245	19.612	20.000	20.412	20.851	21.320
99	18.709	19.053	19.415	19.800	20.208	20.643	21.107
98	18.520	18.860	19.219	19.600	20.004	20.434	20.894
97	18.331	18.668	19.023	19.400	19.800	20.226	20.680
96	18.142	18.475	18.827	19.200	19.596	20.017	20.467
95	17.953	18.283	18.631	19.000	19.392	19.809	20.254
94	17.764	18.090	18.435	18.800	19.188	19.600	20.041
93	17.575	17.898	18.239	18.600	18.984	19.392	19.828
92	17.386	17.705	18.043	18.400	18.779	19.183	19.614
91	17.197	17.513	17.847	18.200	18.575	18.975	19.401
90	17.008	17.321	17.650	18.000	18.371	18.766	19.188
89	16.819	17.128	17.454	17.800	18.167	18.558	18.975
88	16.630	16.936	17.258	17.600	17.963	18.349	18.762
87	16.441	16.743	17.062	17.400	17.759	18.141	18.548
86	16.252	16.551	16.866	17.200	17.555	17.932	18.335
85	16.063	16.358	16.670	17.000	17.351	17.724	18.122
84	15.875	16.166	16.474	16.800	17.146	17.515	17.909
83	15.686	15.973	16.278	16.600	16.942	17.307	17.696
82	15.497	15.781	16.082	16.400	16.738	17.098	17.482
81	15.308	15.588	15.885	16.200	16.534	16.890	17.269

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	28	27	26	25	24	23	22
80	15.119	15.396	15.689	16.000	16.330	16.681	17.056
79	14.930	15.204	15.493	15.800	16.126	16.473	16.843
78	14.741	15.011	15.297	15.600	15.922	16.264	16.630
77	14.552	14.819	15.101	15.400	15.718	16.056	16.416
76	14.363	14.626	14.905	15.200	15.513	15.847	16.203
75	14.174	14.434	14.709	15.000	15.309	15.639	15.990
74	13.985	14.241	14.513	14.800	15.105	15.430	15.777
73	13.796	14.049	14.316	14.600	14.901	15.222	15.564
72	13.607	13.856	14.120	14.400	14.697	15.013	15.350
71	13.418	13.664	13.924	14.200	14.493	14.805	15.137
70	13.229	13.472	13.728	14.000	14.289	14.596	14.924
69	13.040	13.279	13.532	13.800	14.085	14.387	14.711
68	12.851	13.087	13.336	13.600	13.880	14.179	14.498
67	12.662	12.894	13.140	13.400	13.676	13.970	14.284
66	12.473	12.702	12.944	13.200	13.472	13.762	14.071
65	12.284	12.509	12.748	13.000	13.268	13.553	13.858
64	12.095	12.317	12.551	12.800	13.064	13.345	13.645
63	11.906	12.124	12.355	12.600	12.860	13.136	13.432
62	11.717	11.932	12.159	12.400	12.656	12.928	13.218
61	11.528	11.739	11.963	12.200	12.452	12.719	13.005
60	11.339	11.547	11.767	12.000	12.247	12.511	12.792
59	11.150	11.355	11.571	11.800	12.043	12.302	12.579
58	10.961	11.162	11.375	11.600	11.839	12.094	12.366
57	10.772	10.970	11.179	11.400	11.635	11.885	12.152
56	10.583	10.777	10.983	11.200	11.431	11.677	11.939
55	10.394	10.585	10.786	11.000	11.227	11.468	11.726
54	10.205	10.392	10.590	10.800	11.023	11.260	11.513
53	10.016	10.200	10.394	10.600	10.819	11.051	11.300
52	9.827	10.007	10.198	10.400	10.614	10.843	11.086
51	9.638	9.815	10.002	10.200	10.410	10.634	10.873
50	9.449	9.623	9.806	10.000	10.206	10.426	10.660
49	9.260	9.430	9.610	9.800	10.002	10.217	10.447
48	9.071	9.238	9.414	9.600	9.798	10.009	10.234
47	8.882	9.045	9.217	9.400	9.594	9.800	10.020
46	8.693	8.853	9.021	9.200	9.390	9.592	9.807

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 28	27	26	25	24	23	22
45	8.504	8.660	8.825	9.000	9.186	9.383	9.594
44	8.315	8.468	8.629	8.800	8.981	9.175	9.381
43	8.126	8.275	8.433	8.600	8.777	8.966	9.168
42	7.937	8.083	8.237	8.400	8.573	8.758	8.954
41	7.748	7.890	8.041	8.200	8.369	8.549	8.741
40	7.559	7.698	7.845	8.000	8.165	8.341	8.528
39	7.370	7.506	7.649	7.800	7.961	8.132	8.315
38	7.181	7.313	7.452	7.600	7.757	7.924	8.102
37	6.992	7.121	7.256	7.400	7.553	7.715	7.888
36	6.803	6.928	7.060	7.200	7.348	7.507	7.675
35	6.614	6.736	6.864	7.000	7.144	7.298	7.462
34	6.425	6.543	6.668	6.800	6.940	7.089	7.249
33	6.236	6.351	6.472	6.600	6.736	6.881	7.036
32	6.047	6.158	6.276	6.400	6.532	6.672	6.822
31	5.858	5.966	6.080	6.200	6.328	6.464	6.609
30	5.669	5.774	5.883	6.000	6.124	6.255	6.396
29	5.480	5.581	5.687	5.800	5.920	6.047	6.183
28	5.292	5.389	5.491	5.600	5.715	5.838	5.970
27	5.103	5.196	5.295	5.400	5.511	5.630	5.756
26	4.914	5.004	5.099	5.200	5.307	5.421	5.543
25	4.725	4.811	4.903	5.000	5.103	5.213	5.330
24	4.536	4.619	4.707	4.800	4.899	5.004	5.117
23	4.347	4.426	4.511	4.600	4.695	4.796	4.904
22	4.158	4.234	4.315	4.400	4.491	4.587	4.690
21	3.969	4.041	4.118	4.200	4.287	4.379	4.477
20	3.780	3.849	3.922	4.000	4.082	4.170	4.264
19	3.591	3.657	3.726	3.800	3.878	3.962	4.051
18	3.402	3.464	3.530	3.600	3.674	3.753	3.838
17	3.213	3.272	3.334	3.400	3.470	3.545	3.624
16	3.024	3.079	3.138	3.200	3.266	3.336	3.411
15	2.835	2.887	2.942	3.000	3.062	3.128	3.198
14	2.646	2.694	2.746	2.800	2.858	2.919	2.985
13	2.457	2.502	2.550	2.600	2.654	2.711	2.772
12	2.268	2.309	2.353	2.400	2.449	2.502	2.558
11	2.079	2.117	2.157	2.200	2.245	2.294	2.345

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	21	20	19	18	17	16	15
200	43.644	44.721	45.883	47.140	48.507	50.000	51.640
198	43.207	44.274	45.424	46.669	48.022	49.500	51.123
196	42.771	43.827	44.965	46.198	47.537	49.000	50.607
194	42.334	43.380	44.507	45.726	47.052	48.500	50.091
192	41.898	42.933	44.048	45.255	46.567	48.000	49.574
190	41.461	42.485	43.589	44.783	46.082	47.500	49.058
188	41.025	42.038	43.130	44.312	45.597	47.000	48.541
186	40.589	41.591	42.671	43.841	45.112	46.500	48.025
184	40.152	41.144	42.212	43.369	44.627	46.000	47.509
182	39.716	40.696	41.754	42.898	44.141	45.500	46.992
180	39.279	40.249	41.295	42.426	43.656	45.000	46.476
178	38.843	39.802	40.836	41.955	43.171	44.500	45.959
176	38.406	39.355	40.377	41.484	42.686	44.000	45.443
174	37.970	38.908	39.918	41.012	42.201	43.500	44.927
172	37.533	38.460	39.460	40.541	41.716	43.000	44.410
170	37.097	38.013	39.001	40.069	41.231	42.500	43.894
169	36.879	37.790	38.771	39.834	40.989	42.250	43.636
168	36.661	37.566	38.542	39.598	40.746	42.000	43.377
167	36.442	37.342	38.312	39.362	40.503	41.750	43.119
166	36.224	37.119	38.083	39.127	40.261	41.500	42.861
165	36.006	36.895	37.854	38.891	40.018	41.250	42.603
164	35.788	36.672	37.624	38.655	39.776	41.000	42.345
163	35.570	36.448	37.395	38.419	39.533	40.750	42.086
162	35.351	36.224	37.165	38.184	39.291	40.500	41.828
161	35.133	36.001	36.936	37.948	39.048	40.250	41.570
160	34.915	35.777	36.707	37.712	38.806	40.000	41.312
159	34.697	35.553	36.477	37.477	38.563	39.750	41.054
158	34.478	35.330	36.248	37.241	38.321	39.500	40.795
157	34.260	35.106	36.018	37.005	38.078	39.250	40.537
156	34.042	34.883	35.789	36.770	37.836	39.000	40.279
155	33.824	34.659	35.559	36.534	37.593	38.750	40.021
154	33.606	34.435	35.330	36.298	37.350	38.500	39.763
153	33.387	34.212	35.101	36.062	37.108	38.250	39.504
152	33.169	33.988	34.871	35.827	36.865	38.000	39.246
151	32.951	33.765	34.642	35.591	36.623	37.750	38.988

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	21	20	19	18	17	16	15
150	32.733	33.541	34.412	35.355	36.380	37.500	38.730
149	32.514	33.317	34.183	35.120	36.138	37.250	38.472
148	32.296	33.094	33.954	34.884	35.895	37.000	38.213
147	32.078	32.870	33.724	34.648	35.653	36.750	37.955
146	31.860	32.647	33.495	34.413	35.410	36.500	37.697
145	31.642	32.423	33.265	34.177	35.168	36.250	37.439
144	31.423	32.199	33.036	33.941	34.925	36.000	37.181
143	31.205	31.976	32.806	33.705	34.683	35.750	36.922
142	30.987	31.752	32.577	33.470	34.440	35.500	36.664
141	30.769	31.529	32.348	33.234	34.198	35.250	36.406
140	30.551	31.305	32.118	32.998	33.955	35.000	36.148
139	30.332	31.081	31.889	32.763	33.712	34.750	35.890
138	30.114	30.858	31.659	32.527	33.470	34.500	35.631
137	29.896	30.634	31.430	32.291	33.227	34.250	35.373
136	29.678	30.411	31.201	32.056	32.985	34.000	35.115
135	29.459	30.187	30.971	31.820	32.742	33.750	34.857
134	29.241	29.963	30.742	31.584	32.500	33.500	34.599
133	29.023	29.740	30.512	31.348	32.257	33.250	34.340
132	28.805	29.516	30.283	31.113	32.015	33.000	34.082
131	28.587	29.292	30.053	30.877	31.772	32.750	33.824
130	28.368	29.069	29.824	30.641	31.530	32.500	33.566
129	28.150	28.845	29.595	30.406	31.287	32.250	33.308
128	27.932	28.622	29.365	30.170	31.045	32.000	33.049
127	27.714	28.398	29.136	29.934	30.802	31.750	32.791
126	27.495	28.174	28.906	29.698	30.559	31.500	32.533
125	27.277	27.951	28.677	29.463	30.317	31.250	32.275
124	27.059	27.727	28.448	29.227	30.074	31.000	32.017
123	26.841	27.504	28.218	28.991	29.832	30.750	31.758
122	26.623	27.280	27.989	28.756	29.589	30.500	31.500
121	26.404	27.056	27.759	28.520	29.347	30.250	31.242
120	26.186	26.833	27.530	28.284	29.104	30.000	30.984
119	25.968	26.609	27.300	28.049	28.862	29.750	30.726
118	25.750	26.386	27.071	27.813	28.619	29.500	30.467
117	25.531	26.162	26.842	27.577	28.377	29.250	30.209
116	25.313	25.938	26.612	27.341	28.134	29.000	29.951

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	21	20	19	18	17	16	15
115	25.095	25.715	26.383	27.106	27.892	28.750	29.693
114	24.877	25.491	26.153	26.870	27.649	28.500	29.435
113	24.659	25.268	25.924	26.634	27.407	28.250	29.176
112	24.440	25.044	25.695	26.399	27.164	28.000	28.918
111	24.222	24.820	25.465	26.163	26.921	27.750	28.660
110	24.004	24.597	25.236	25.927	26.679	27.500	28.402
109	23.786	24.373	25.006	25.692	26.436	27.250	28.144
108	23.568	24.150	24.777	25.456	26.194	27.000	27.885
107	23.349	23.926	24.547	25.220	25.951	26.750	27.627
106	23.131	23.702	24.318	24.984	25.709	26.500	27.369
105	22.913	23.479	24.089	24.749	25.466	26.250	27.111
104	22.695	23.255	23.859	24.513	25.224	26.000	26.853
103	22.476	23.032	23.630	24.277	24.981	25.750	26.594
102	22.258	22.808	23.400	24.042	24.739	25.500	26.336
101	22.040	22.584	23.171	23.806	24.496	25.250	26.078
100	21.822	22.361	22.942	23.570	24.254	25.000	25.820
99	21.604	22.137	22.712	23.335	24.011	24.750	25.562
98	21.385	21.913	22.483	23.099	23.768	24.500	25.303
97	21.167	21.690	22.253	22.863	23.526	24.250	25.045
96	20.949	21.466	22.024	22.627	23.283	24.000	24.787
95	20.731	21.243	21.794	22.392	23.041	23.750	24.529
94	20.512	21.019	21.565	22.156	22.798	23.500	24.271
93	20.294	20.795	21.336	21.920	22.556	23.250	24.012
92	20.076	20.572	21.106	21.685	22.313	23.000	23.754
91	19.858	20.348	20.877	21.449	22.071	22.750	23.496
90	19.640	20.125	20.647	21.213	21.828	22.500	23.238
89	19.421	19.901	20.418	20.978	21.586	22.250	22.980
88	19.203	19.677	20.189	20.742	21.343	22.000	22.722
87	18.985	19.454	19.959	20.506	21.101	21.750	22.463
86	18.767	19.230	19.730	20.270	20.858	21.500	22.205
85	18.549	19.007	19.500	20.035	20.616	21.250	21.947
84	18.330	18.783	19.271	19.799	20.373	21.000	21.689
83	18.112	18.559	19.042	19.563	20.130	20.750	21.431
82	17.894	18.336	18.812	19.328	19.888	20.500	21.172
81	17.676	18.112	18.583	19.092	19.645	20.250	20.914

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	21	20	19	18	17	16	15
80	17.457	17.889	18.353	18.856	19.403	20.000	20.656
79	17.239	17.665	18.124	18.620	19.160	19.750	20.398
78	17.021	17.441	17.894	18.385	18.918	19.500	20.140
77	16.803	17.218	17.665	18.149	18.675	19.250	19.881
76	16.585	16.994	17.436	17.913	18.433	19.000	19.623
75	16.366	16.771	17.206	17.678	18.190	18.750	19.365
74	16.148	16.547	16.977	17.442	17.948	18.500	19.107
73	15.930	16.323	16.747	17.206	17.705	18.250	18.849
72	15.712	16.100	16.518	16.971	17.463	18.000	18.590
71	15.493	15.876	16.289	16.735	17.220	17.750	18.332
70	15.275	15.652	16.059	16.499	16.977	17.500	18.074
69	15.057	15.429	15.830	16.263	16.735	17.250	17.816
68	14.839	15.205	15.600	16.028	16.492	17.000	17.558
67	14.621	14.982	15.371	15.792	16.250	16.750	17.299
66	14.402	14.758	15.141	15.556	16.007	16.500	17.041
65	14.184	14.534	14.912	15.321	15.765	16.250	16.783
64	13.966	14.311	14.683	15.085	15.522	16.000	16.525
63	13.748	14.087	14.453	14.849	15.280	15.750	16.267
62	13.530	13.864	14.224	14.614	15.037	15.500	16.008
61	13.311	13.640	13.994	14.378	14.795	15.250	15.750
60	13.093	13.416	13.765	14.142	14.552	15.000	15.492
59	12.875	13.193	13.536	13.906	14.310	14.750	15.234
58	12.657	12.969	13.306	13.671	14.067	14.500	14.976
57	12.438	12.746	13.077	13.435	13.825	14.250	14.717
56	12.220	12.522	12.847	13.199	13.582	14.000	14.459
55	12.002	12.298	12.618	12.964	13.339	13.750	14.201
54	11.784	12.075	12.388	12.728	13.097	13.500	13.943
53	11.566	11.851	12.159	12.492	12.854	13.250	13.685
52	11.347	11.628	11.930	12.257	12.612	13.000	13.426
51	11.129	11.404	11.700	12.021	12.369	12.750	13.168
50	10.911	11.180	11.471	11.785	12.127	12.500	12.910
49	10.693	10.957	11.241	11.549	11.884	12.250	12.652
48	10.474	10.733	11.012	11.314	11.642	12.000	12.394
47	10.256	10.510	10.783	11.078	11.399	11.750	12.135
46	10.038	10.286	10.553	10.842	11.157	11.500	11.877

TABLE I (CONT.)

COVER FACTOR TABLE

	YARN NUMBERS						
TEXTURE	21	20	19	18	17	16	15
45	9.820	10.062	10.324	10.607	10.914	11.250	11.619
44	9.602	9.839	10.094	10.371	10.672	11.000	11.361
43	9.383	9.615	9.865	10.135	10.429	10.750	11.103
42	9.165	9.391	9.635	9.899	10.186	10.500	10.844
41	8.947	9.168	9.406	9.664	9.944	10.250	10.586
40	8.729	8.944	9.177	9.428	9.701	10.000	10.328
39	8.510	8.721	8.947	9.192	9.459	9.750	10.070
38	8.292	8.497	8.718	8.957	9.216	9.500	9.812
37	8.074	8.273	8.488	8.721	8.974	9.250	9.553
36	7.856	8.050	8.259	8.485	8.731	9.000	9.295
35	7.638	7.826	8.030	8.250	8.489	8.750	9.037
34	7.419	7.603	7.800	8.014	8.246	8.500	8.779
33	7.201	7.379	7.571	7.778	8.004	8.250	8.521
32	6.983	7.155	7.341	7.542	7.761	8.000	8.262
31	6.765	6.932	7.112	7.307	7.519	7.750	8.004
30	6.547	6.708	6.882	7.071	7.276	7.500	7.746
29	6.328	6.485	6.653	6.835	7.034	7.250	7.488
28	6.110	6.261	6.424	6.600	6.791	7.000	7.230
27	5.892	6.037	6.194	6.364	6.548	6.750	6.971
26	5.674	5.814	5.965	6.128	6.306	6.500	6.713
25	5.455	5.590	5.735	5.893	6.063	6.250	6.455
24	5.237	5.367	5.506	5.657	5.821	6.000	6.197
23	5.019	5.143	5.277	5.421	5.578	5.750	5.939
22	4.801	4.919	5.047	5.185	5.336	5.500	5.680
21	4.583	4.696	4.818	4.950	5.093	5.250	5.422
20	4.364	4.472	4.588	4.714	4.851	5.000	5.164
19	4.146	4.249	4.359	4.478	4.608	4.750	4.906
18	3.928	4.025	4.129	4.243	4.366	4.500	4.648
17	3.710	3.801	3.900	4.007	4.123	4.250	4.389
16	3.491	3.578	3.671	3.771	3.881	4.000	4.131
15	3.273	3.354	3.441	3.536	3.638	3.750	3.873
14	3.055	3.130	3.212	3.300	3.395	3.500	3.615
13	2.837	2.907	2.982	3.064	3.153	3.250	3.357
12	2.619	2.683	2.753	2.828	2.910	3.000	3.098
11	2.400	2.460	2.524	2.593	2.668	2.750	2.840

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	14	13	12	11	10	9	8
200	53.452	55.470	57.735	60.302	63.246	66.667	70.711
198	52.918	54.915	57.158	59.699	62.613	66.000	70.004
196	52.383	54.361	56.580	59.096	61.981	65.333	69.296
194	51.849	53.806	56.003	58.493	61.348	64.667	68.589
192	51.314	53.251	55.426	57.890	60.716	64.000	67.882
190	50.780	52.697	54.848	57.287	60.083	63.333	67.175
188	50.245	52.142	54.271	56.684	59.451	62.667	66.468
186	49.711	51.587	53.694	56.081	58.818	62.000	65.761
184	49.176	51.032	53.116	55.478	58.186	61.333	65.054
182	48.642	50.478	52.539	54.875	57.553	60.667	64.347
180	48.107	49.923	51.962	54.272	56.921	60.000	63.640
178	47.573	49.368	51.384	53.669	56.289	59.333	62.933
176	47.038	48.814	50.807	53.066	55.656	58.667	62.225
174	46.503	48.259	50.229	52.463	55.024	58.000	61.518
172	45.969	47.704	49.652	51.860	54.391	57.333	60.811
170	45.434	47.150	49.075	51.257	53.759	56.667	60.104
169	45.167	46.872	48.786	50.955	53.442	56.333	59.751
168	44.900	46.595	48.497	50.654	53.126	56.000	59.397
167	44.633	46.317	48.209	50.352	52.810	55.667	59.043
166	44.365	46.040	47.920	50.051	52.494	55.333	58.690
165	44.098	45.763	47.631	49.749	52.178	55.000	58.336
164	43.831	45.485	47.343	49.448	51.861	54.667	57.983
163	43.564	45.208	47.054	49.146	51.545	54.333	57.629
162	43.296	44.931	46.765	48.845	51.229	54.000	57.276
161	43.029	44.653	46.477	48.543	50.913	53.667	56.922
160	42.762	44.376	46.188	48.242	50.596	53.333	56.569
159	42.495	44.099	45.899	47.940	50.280	53.000	56.215
158	42.227	43.821	45.611	47.639	49.964	52.667	55.861
157	41.960	43.544	45.322	47.337	49.648	52.333	55.508
156	41.693	43.267	45.033	47.036	49.332	52.000	55.154
155	41.425	42.989	44.745	46.734	49.015	51.667	54.801
154	41.158	42.712	44.456	46.433	48.699	51.333	54.447
153	40.891	42.435	44.167	46.131	48.383	51.000	54.094
152	40.624	42.157	43.879	45.830	48.067	50.667	53.740
151	40.356	41.880	43.590	45.528	47.750	50.333	53.387

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	14	13	12	11	10	9	8
150	40.089	41.803	43.301	45.227	47.434	50.000	53.033
149	39.822	41.325	43.013	44.925	47.118	49.667	52.679
148	39.555	41.048	42.724	44.624	46.802	49.333	52.326
147	39.287	40.770	42.435	44.322	46.485	49.000	51.972
146	39.020	40.493	42.147	44.021	46.169	48.667	51.619
145	38.753	40.216	41.858	43.719	45.853	48.333	51.265
144	38.486	39.938	41.569	43.418	45.537	48.000	50.912
143	38.218	39.661	41.281	43.116	45.221	47.667	50.558
142	37.951	39.384	40.992	42.815	44.904	47.333	50.205
141	37.684	39.106	40.703	42.513	44.588	47.000	49.851
140	37.417	38.829	40.415	42.212	44.272	46.667	49.497
139	37.149	38.552	40.126	41.910	43.956	46.333	49.144
138	36.882	38.274	39.837	41.609	43.639	46.000	48.790
137	36.615	37.997	39.548	41.307	43.323	45.667	48.437
136	36.348	37.720	39.260	41.006	43.007	45.333	48.083
135	36.080	37.442	38.971	40.704	42.691	45.000	47.730
134	35.813	37.165	38.682	40.403	42.375	44.667	47.376
133	35.546	36.888	38.394	40.101	42.058	44.333	47.023
132	35.278	36.610	38.105	39.799	41.742	44.000	46.669
131	35.011	36.333	37.816	39.498	41.426	43.667	46.315
130	34.744	36.056	37.528	39.196	41.110	43.333	45.962
129	34.477	35.778	37.239	38.895	40.793	43.000	45.608
128	34.209	35.501	36.950	38.593	40.477	42.667	45.255
127	33.942	35.223	36.662	38.292	40.161	42.333	44.901
126	33.675	34.946	36.373	37.990	39.845	42.000	44.548
125	33.408	34.669	36.084	37.689	39.528	41.667	44.194
124	33.140	34.391	35.796	37.387	39.212	41.333	43.841
123	32.873	34.114	35.507	37.086	38.896	41.000	43.487
122	32.606	33.837	35.218	36.784	38.580	40.667	43.134
121	32.339	33.559	34.930	36.483	38.264	40.333	42.780
120	32.071	33.282	34.641	36.181	37.947	40.000	42.426
119	31.804	33.005	34.352	35.880	37.631	39.667	42.073
118	31.537	32.727	34.064	35.578	37.315	39.333	41.719
117	31.270	32.450	33.775	35.277	36.999	39.000	41.366
116	31.002	32.173	33.486	34.975	36.682	38.667	41.012

TABLE I (CONT.)

COVER FACTOR TABLE

	YARN NUMBERS						
TEXTURE	14	13	12	11	10	9	8
115	30.735	31.895	33.198	34.674	36.366	38.333	40.659
114	30.468	31.618	32.909	34.372	36.050	38.000	40.305
113	30.201	31.341	32.620	34.071	35.734	37.667	39.952
112	29.933	31.063	32.332	33.769	35.418	37.333	39.598
111	29.666	30.786	32.043	33.468	35.101	37.000	39.244
110	29.399	30.509	31.754	33.166	34.785	36.667	38.891
109	29.131	30.231	31.466	32.865	34.469	36.333	38.537
108	28.864	29.954	31.177	32.563	34.153	36.000	38.184
107	28.597	29.676	30.888	32.262	33.836	35.667	37.830
106	28.330	29.399	30.600	31.960	33.520	35.333	37.477
105	28.062	29.122	30.311	31.659	33.204	35.000	37.123
104	27.795	28.844	30.022	31.357	32.888	34.667	36.770
103	27.528	28.567	29.734	31.056	32.571	34.333	36.416
102	27.261	28.290	29.445	30.754	32.255	34.000	36.062
101	26.993	28.012	29.156	30.453	31.939	33.667	35.709
100	26.726	27.735	28.868	30.151	31.623	33.333	35.355
99	26.459	27.458	28.579	29.850	31.307	33.000	35.002
98	26.192	27.180	28.290	29.548	30.990	32.667	34.648
97	25.924	26.903	28.001	29.247	30.674	32.333	34.295
96	25.657	26.626	27.713	28.945	30.358	32.000	33.941
95	25.390	26.348	27.424	28.644	30.042	31.667	33.588
94	25.123	26.071	27.135	28.342	29.725	31.333	33.234
93	24.855	25.794	26.847	28.041	29.409	31.000	32.880
92	24.588	25.516	26.558	27.739	29.093	30.667	32.527
91	24.321	25.239	26.269	27.438	28.777	30.333	32.173
90	24.054	24.962	25.981	27.136	28.460	30.000	31.820
89	23.786	24.684	25.692	26.835	28.144	29.667	31.466
88	23.519	24.407	25.403	26.533	27.828	29.333	31.113
87	23.252	24.129	25.115	26.231	27.512	29.000	30.759
86	22.984	23.852	24.826	25.930	27.196	28.667	30.406
85	22.717	23.575	24.537	25.628	26.879	28.333	30.052
84	22.450	23.297	24.249	25.327	26.563	28.000	29.698
83	22.183	23.020	23.960	25.025	26.247	27.667	29.345
82	21.915	22.743	23.671	24.724	25.931	27.333	28.991
81	21.648	22.465	23.383	24.422	25.614	27.000	28.638

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	14	13	12	11	10	9	8
80	21.381	22.198	23.094	24.121	25.298	26.667	28.284
79	21.114	21.911	22.805	23.819	24.982	26.333	27.931
78	20.846	21.633	22.517	23.518	24.666	26.000	27.577
77	20.579	21.356	22.228	23.216	24.350	25.667	27.224
76	20.312	21.079	21.939	22.915	24.033	25.333	26.870
75	20.045	20.801	21.651	22.613	23.717	25.000	26.517
74	19.777	20.524	21.362	22.312	23.401	24.667	26.163
73	19.510	20.247	21.073	22.010	23.085	24.333	25.809
72	19.243	19.969	20.785	21.709	22.768	24.000	25.456
71	18.976	19.692	20.496	21.407	22.452	23.667	25.102
70	18.708	19.415	20.207	21.106	22.136	23.333	24.749
69	18.441	19.137	19.919	20.804	21.820	23.000	24.395
68	18.174	18.860	19.630	20.503	21.503	22.667	24.042
67	17.907	18.582	19.341	20.201	21.187	22.333	23.688
66	17.639	18.305	19.053	19.900	20.871	22.000	23.335
65	17.372	18.028	18.764	19.598	20.555	21.667	22.981
64	17.105	17.750	18.475	19.297	20.239	21.333	22.627
63	16.837	17.473	18.187	18.995	19.922	21.000	22.274
62	16.570	17.196	17.898	18.694	19.606	20.667	21.920
61	16.303	16.918	17.609	18.392	19.290	20.333	21.567
60	16.036	16.641	17.321	18.091	18.974	20.000	21.213
59	15.768	16.364	17.032	17.789	18.657	19.667	20.860
58	15.501	16.086	16.743	17.488	18.341	19.333	20.506
57	15.234	15.809	16.454	17.186	18.025	19.000	20.153
56	14.967	15.532	16.166	16.885	17.709	18.667	19.799
55	14.699	15.254	15.877	16.583	17.393	18.333	19.445
54	14.432	14.977	15.588	16.282	17.076	18.000	19.092
53	14.165	14.700	15.300	15.980	16.760	17.667	18.738
52	13.898	14.422	15.011	15.679	16.444	17.333	18.385
51	13.630	14.145	14.722	15.377	16.128	17.000	18.031
50	13.363	13.868	14.434	15.076	15.811	16.667	17.678
49	13.096	13.590	14.145	14.774	15.495	16.333	17.324
48	12.829	13.313	13.856	14.473	15.179	16.000	16.971
47	12.561	13.035	13.568	14.171	14.863	15.667	16.617
46	12.294	12.758	13.279	13.870	14.546	15.333	16.263

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	14	13	12	11	10	9	8
45	12.027	12.481	12.990	13.568	14.230	15.000	15.910
44	11.759	12.203	12.702	13.266	13.914	14.667	15.556
43	11.492	11.926	12.413	12.965	13.598	14.333	15.203
42	11.225	11.649	12.124	12.663	13.282	14.000	14.849
41	10.958	11.371	11.836	12.362	12.965	13.667	14.496
40	10.690	11.094	11.547	12.060	12.649	13.333	14.142
39	10.423	10.817	11.258	11.759	12.333	13.000	13.789
38	10.156	10.539	10.970	11.457	12.017	12.667	13.435
37	9.889	10.262	10.681	11.156	11.700	12.333	13.081
36	9.621	9.985	10.392	10.854	11.384	12.000	12.728
35	9.354	9.707	10.104	10.553	11.068	11.667	12.374
34	9.087	9.430	9.815	10.251	10.752	11.333	12.021
33	8.820	9.153	9.526	9.950	10.436	11.000	11.667
32	8.552	8.875	9.238	9.648	10.119	10.667	11.314
31	8.285	8.598	8.949	9.347	9.803	10.333	10.960
30	8.018	8.321	8.660	9.045	9.487	10.000	10.607
29	7.751	8.043	8.372	8.744	9.171	9.667	10.253
28	7.483	7.766	8.083	8.442	8.854	9.333	9.899
27	7.216	7.488	7.794	8.141	8.538	9.000	9.546
26	6.949	7.211	7.506	7.839	8.222	8.667	9.192
25	6.682	6.934	7.217	7.538	7.906	8.333	8.839
24	6.414	6.656	6.928	7.236	7.589	8.000	8.485
23	6.147	6.379	6.640	6.935	7.273	7.667	8.132
22	5.880	6.102	6.351	6.633	6.957	7.333	7.778
21	5.612	5.824	6.062	6.332	6.641	7.000	7.425
20	5.345	5.547	5.774	6.030	6.325	6.667	7.071
19	5.078	5.270	5.485	5.729	6.008	6.333	6.718
18	4.811	4.992	5.196	5.427	5.692	6.000	6.364
17	4.543	4.715	4.907	5.126	5.376	5.667	6.010
16	4.276	4.438	4.619	4.824	5.060	5.333	5.657
15	4.009	4.160	4.330	4.523	4.743	5.000	5.303
14	3.742	3.883	4.041	4.221	4.427	4.667	4.950
13	3.474	3.606	3.753	3.920	4.111	4.333	4.596
12	3.207	3.328	3.464	3.618	3.795	4.000	4.243
11	2.940	3.051	3.175	3.317	3.479	3.667	3.889

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 7	6	5	4	3	2	1
200							
198	74.837						
196	74.081						
194	73.325						
192	72.569						
190	71.813						
188	71.057						
186	70.301						
184	69.545						
182	68.790	74.301					
180	68.034	73.485					
178	67.278	72.668					
176	66.522	71.852					
174	65.766	71.035					
172	65.010	70.219					
170	64.254	69.402					
169	63.876	68.994					
168	63.498	68.586					
167	63.120	68.177	74.685				
166	62.742	67.769	74.237				
165	62.364	67.361	73.790				
164	61.986	66.953	73.343				
163	61.608	66.544	72.896				
162	61.230	66.136	72.449				
161	60.852	65.728	72.001				
160	60.474	65.320	71.554				
159	60.096	64.911	71.107				
158	59.718	64.503	70.660				
157	59.340	64.095	70.213				
156	58.962	63.687	69.765				
155	58.584	63.278	69.318				
154	58.207	62.870	68.871				
153	57.829	62.462	68.424				
152	57.451	62.054	67.976				
151	57.073	61.645	67.529				

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 7	6	5	4	3	2	1
150	56.695	61.237	67.082	75.000			
149	56.317	60.829	66.635	74.500			
148	55.939	60.421	66.188	74.000			
147	55.561	60.012	65.740	73.500			
146	55.183	59.604	65.293	73.000			
145	54.805	59.196	64.846	72.500			
144	54.427	58.788	64.399	72.000			
143	54.049	58.380	63.952	71.500			
142	53.671	57.971	63.504	71.000			
141	53.293	57.563	63.057	70.500			
140	52.915	57.155	62.610	70.000			
139	52.537	56.747	62.163	69.500			
138	52.159	56.338	61.715	69.000			
137	51.781	55.930	61.268	68.500			
136	51.403	55.522	60.821	68.000			
135	51.025	55.114	60.374	67.500			
134	50.647	54.705	59.927	67.000			
133	50.269	54.297	59.479	66.500			
132	49.891	53.889	59.032	66.000			
131	49.513	53.481	58.585	65.500			
130	49.135	53.072	58.138	65.000			
129	48.757	52.664	57.691	64.500	74.478		
128	48.379	52.256	57.243	64.000	73.901		
127	48.001	51.848	56.796	63.500	73.323		
126	47.624	51.439	56.349	63.000	72.746		
125	47.246	51.031	55.902	62.500	72.169		
124	46.868	50.623	55.454	62.000	71.591		
123	46.490	50.215	55.007	61.500	71.014		
122	46.112	49.806	54.560	61.000	70.437		
121	45.734	49.398	54.113	60.500	69.859		
120	45.356	48.990	53.666	60.000	69.282		
119	44.978	48.582	53.218	59.500	68.705		
118	44.600	48.173	52.771	59.000	68.127		
117	44.222	47.765	52.324	58.500	67.550		
116	43.844	47.357	51.877	58.000	66.973		

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 7	6	5	4	3	2	1
115	43.466	46.949	51.430	57.500	66.395		
114	43.088	46.540	50.982	57.000	65.818		
113	42.710	46.132	50.535	56.500	65.241		
112	42.332	45.724	50.088	56.000	64.663		
111	41.954	45.316	49.641	55.500	64.086		
110	41.576	44.907	49.193	55.000	63.509		
109	41.198	44.499	48.746	54.500	62.931		
108	40.820	44.091	48.299	54.000	62.354		
107	40.442	43.683	47.852	53.500	61.776		
106	40.064	43.274	47.405	53.000	61.199	74.953	
105	39.686	42.866	46.957	52.500	60.622	74.246	
104	39.308	42.458	46.510	52.000	60.044	73.539	
103	38.930	42.050	46.063	51.500	59.467	72.832	
102	38.552	41.641	45.616	51.000	58.890	72.125	
101	38.174	41.233	45.169	50.500	58.312	71.418	
100	37.796	40.825	44.721	50.000	57.735	70.711	
99	37.418	40.417	44.274	49.500	57.158	70.004	
98	37.041	40.008	43.827	49.000	56.580	69.296	
97	36.663	39.600	43.380	48.500	56.003	68.589	
96	36.285	39.192	42.933	48.000	55.426	67.882	
95	35.907	38.784	42.485	47.500	54.848	67.175	
94	35.529	38.375	42.038	47.000	54.271	66.468	
93	35.151	37.967	41.591	46.500	53.694	65.761	
92	34.773	37.559	41.144	46.000	53.116	65.054	
91	34.395	37.151	40.696	45.500	52.539	64.347	
90	34.017	36.742	40.249	45.000	51.962	63.640	
89	33.639	36.334	39.802	44.500	51.384	62.933	
88	33.261	35.926	39.355	44.000	50.807	62.225	
87	32.883	35.518	38.908	43.500	50.229	61.518	
86	32.505	35.109	38.460	43.000	49.652	60.811	
85	32.127	34.701	38.013	42.500	49.075	60.104	
84	31.749	34.293	37.566	42.000	48.497	59.397	
83	31.371	33.885	37.119	41.500	47.920	58.690	
82	30.993	33.476	36.672	41.000	47.343	57.983	
81	30.615	33.068	36.224	40.500	46.765	57.276	

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS 7	6	5	4	3	2	1
80	30.237	32.660	35.777	40.000	46.188	56.569	
79	29.859	32.252	35.330	39.500	45.611	55.861	
78	29.481	31.843	34.883	39.000	45.033	55.154	
77	29.103	31.435	34.435	38.500	44.456	54.447	
76	28.725	31.027	33.988	38.000	43.879	53.740	
75	28.347	30.619	33.541	37.500	43.301	53.033	75.000
74	27.969	30.210	33.094	37.000	42.724	52.326	74.000
73	27.591	29.802	32.647	36.500	42.147	51.619	73.000
72	27.213	29.394	32.199	36.000	41.569	50.912	72.000
71	26.835	28.986	31.752	35.500	40.992	50.205	71.000
70	26.458	28.577	31.305	35.000	40.415	49.497	70.000
69	26.080	28.169	30.858	34.500	39.837	48.790	69.000
68	25.702	27.761	30.411	34.000	39.260	48.083	68.000
67	25.324	27.353	29.963	33.500	38.682	47.376	67.000
66	24.946	26.944	29.516	33.000	38.105	46.669	66.000
65	24.568	26.536	29.069	32.500	37.528	45.962	65.000
64	24.190	26.128	28.622	32.000	36.950	45.255	64.000
63	23.812	25.720	28.174	31.500	36.373	44.548	63.000
62	23.434	25.311	27.727	31.000	35.796	43.841	62.000
61	23.056	24.903	27.280	30.500	35.218	43.134	61.000
60	22.678	24.495	26.833	30.000	34.641	42.426	60.000
59	22.300	24.087	26.386	29.500	34.064	41.719	59.000
58	21.922	23.678	25.938	29.000	33.486	41.012	58.000
57	21.544	23.270	25.491	28.500	32.909	40.305	57.000
56	21.166	22.862	25.044	28.000	32.332	39.598	56.000
55	20.788	22.454	24.597	27.500	31.754	38.891	55.000
54	20.410	22.045	24.150	27.000	31.177	38.184	54.000
53	20.032	21.637	23.702	26.500	30.600	37.477	53.000
52	19.654	21.229	23.255	26.000	30.022	36.770	52.000
51	19.276	20.821	22.808	25.500	29.445	36.062	51.000
50	18.898	20.412	22.361	25.000	28.868	35.355	50.000
49	18.520	20.004	21.913	24.500	28.290	34.648	49.000
48	18.142	19.596	21.466	24.000	27.713	33.941	48.000
47	17.764	19.188	21.019	23.500	27.135	33.234	47.000
46	17.386	18.779	20.572	23.000	26.558	32.527	46.000

TABLE I (CONT.)

COVER FACTOR TABLE

TEXTURE	YARN NUMBERS						
	7	6	5	4	3	2	1
45	17.008	18.371	20.125	22.500	25.981	31.820	45.000
44	16.630	17.963	19.677	22.000	25.403	31.113	44.00[illegible]
43	16.252	17.555	19.230	21.500	24.826	30.406	43.000
42	15.875	17.146	18.783	21.000	24.249	29.698	42.000
41	15.497	16.738	18.336	20.500	23.671	28.991	41.000
40	15.119	16.330	17.889	20.000	23.094	28.284	40.000
39	14.741	15.922	17.441	19.500	22.517	27.577	39.000
38	14.363	15.513	16.994	19.000	21.939	26.870	38.000
37	13.985	15.105	16.547	18.500	21.362	26.163	37.000
36	13.607	14.697	16.100	18.000	20.785	25.456	36.000
35	13.229	14.289	15.652	17.500	20.207	24.749	35.000
34	12.851	13.880	15.205	17.000	19.630	24.042	34.000
33	12.473	13.472	14.758	16.500	19.053	23.335	33.000
32	12.095	13.064	14.311	16.000	18.475	22.627	32.000
31	11.717	12.656	13.864	15.500	17.898	21.920	31.000
30	11.339	12.247	13.416	15.000	17.321	21.213	30.000
29	10.961	11.839	12.969	14.500	16.743	20.506	29.000
28	10.583	11.431	12.522	14.000	16.166	19.799	28.000
27	10.205	11.023	12.075	13.500	15.588	19.092	27.000
26	9.827	10.614	11.628	13.000	15.011	18.385	26.000
25	9.449	10.206	11.180	12.500	14.434	17.678	25.000
24	9.071	9.798	10.733	12.000	13.856	16.971	24.000
23	8.693	9.390	10.286	11.500	13.279	16.263	23.000
22	8.315	8.981	9.839	11.000	12.702	15.556	22.000
21	7.937	8.573	9.391	10.500	12.124	14.849	21.000
20	7.559	8.165	8.944	10.000	11.547	14.142	20.000
19	7.181	7.757	8.497	9.500	10.970	13.435	19.000
18	6.803	7.348	8.050	9.000	10.392	12.728	18.000
17	6.425	6.940	7.603	8.500	9.815	12.021	17.000
16	6.047	6.532	7.155	8.000	9.238	11.314	16.000
15	5.669	6.124	6.708	7.500	8.660	10.607	15.000
14	5.292	5.715	6.261	7.000	8.083	9.899	14.000
13	4.914	5.307	5.814	6.500	7.506	9.192	13.000
12	4.536	4.899	5.367	6.000	6.928	8.485	12.000
11	4.158	4.491	4.919	5.500	6.351	7.778	11.000

BETA FACTOR TABLE

TABLE II. BETA FACTOR IN TERMS OF FILLING YARN NUMBER AND WARP YARN NUMBER

This table provides solutions for the beta factor equation (3b)

For each filling yarn number listed above, warp yarn numbers are given over a range of 100 down to 1.

Note: The yarn numbers in this table are singles equivalent.

See sections in the body of the report for:

Organization of Table II (3b)

Solution of typical problems (5b)

Assumptions and limitations of tables (6)

TABLE II

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	84	83	82	81	80	79	78
100	1.091	1.098	1.104	1.111	1.118	1.125	1.132
99	1.086	1.092	1.099	1.106	1.112	1.119	1.127
98	1.080	1.087	1.093	1.100	1.107	1.114	1.121
97	1.075	1.081	1.088	1.094	1.101	1.108	1.115
96	1.069	1.075	1.082	1.089	1.095	1.102	1.109
95	1.063	1.070	1.076	1.083	1.090	1.097	1.104
94	1.058	1.064	1.071	1.077	1.084	1.091	1.098
93	1.052	1.059	1.065	1.072	1.078	1.085	1.092
92	1.047	1.053	1.059	1.066	1.072	1.079	1.086
91	1.041	1.047	1.053	1.060	1.067	1.073	1.080
90	1.035	1.041	1.048	1.054	1.061	1.067	1.074
89	1.029	1.036	1.042	1.048	1.055	1.061	1.068
88	1.024	1.030	1.036	1.042	1.049	1.055	1.062
87	1.018	1.024	1.030	1.036	1.043	1.049	1.056
86	1.012	1.018	1.024	1.030	1.037	1.043	1.050
85	1.006	1.012	1.018	1.024	1.031	1.037	1.044
84	1.000	1.006	1.012	1.018	1.025	1.031	1.038
83	0.994	1.000	1.006	1.012	1.019	1.025	1.032
82	0.988	0.994	1.000	1.006	1.012	1.019	1.025
81	0.982	0.988	0.994	1.000	1.006	1.013	1.019
80	0.976	0.982	0.988	0.994	1.000	1.006	1.013
79	0.970	0.976	0.982	0.988	0.994	1.000	1.006
78	0.964	0.969	0.975	0.981	0.987	0.994	1.000
77	0.957	0.963	0.969	0.975	0.981	0.987	0.994
76	0.951	0.957	0.963	0.969	0.975	0.981	0.987
75	0.945	0.951	0.956	0.962	0.968	0.974	0.981
74	0.939	0.944	0.950	0.956	0.962	0.968	0.974
73	0.932	0.938	0.944	0.949	0.955	0.961	0.967
72	0.926	0.931	0.937	0.943	0.949	0.955	0.961
71	0.919	0.925	0.931	0.936	0.942	0.948	0.954
70	0.913	0.918	0.924	0.930	0.935	0.941	0.947
69	0.906	0.912	0.917	0.923	0.929	0.935	0.941
68	0.900	0.905	0.911	0.916	0.922	0.928	0.934
67	0.893	0.898	0.904	0.909	0.915	0.921	0.927
66	0.886	0.892	0.897	0.903	0.908	0.914	0.920

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	84	83	82	81	80	79	78
65	0.880	0.885	0.890	0.896	0.901	0.907	0.913
64	0.873	0.878	0.883	0.889	0.894	0.900	0.906
63	0.866	0.871	0.877	0.882	0.887	0.893	0.899
62	0.859	0.864	0.870	0.875	0.880	0.886	0.892
61	0.852	0.857	0.862	0.868	0.873	0.879	0.884
60	0.845	0.850	0.855	0.861	0.866	0.871	0.877
59	0.838	0.843	0.848	0.853	0.859	0.864	0.870
58	0.831	0.836	0.841	0.846	0.851	0.857	0.862
57	0.824	0.829	0.834	0.839	0.844	0.849	0.855
56	0.816	0.821	0.826	0.831	0.837	0.842	0.847
55	0.809	0.814	0.819	0.824	0.829	0.834	0.840
54	0.802	0.807	0.812	0.816	0.822	0.827	0.832
53	0.794	0.799	0.804	0.809	0.814	0.819	0.824
52	0.787	0.792	0.796	0.801	0.806	0.811	0.816
51	0.779	0.784	0.789	0.793	0.798	0.803	0.809
50	0.772	0.776	0.781	0.786	0.791	0.796	0.801
49	0.764	0.768	0.773	0.778	0.783	0.788	0.793
48	0.756	0.760	0.765	0.770	0.775	0.779	0.784
47	0.748	0.753	0.757	0.762	0.766	0.771	0.776
46	0.740	0.744	0.749	0.754	0.758	0.763	0.768
45	0.732	0.736	0.741	0.745	0.750	0.755	0.760
44	0.724	0.728	0.733	0.737	0.742	0.746	0.751
43	0.715	0.720	0.724	0.729	0.733	0.738	0.742
42	0.707	0.711	0.716	0.720	0.725	0.729	0.734
41	0.699	0.703	0.707	0.711	0.716	0.720	0.725
40	0.690	0.694	0.698	0.703	0.707	0.712	0.716
39	0.681	0.685	0.690	0.694	0.698	0.703	0.707
38	0.673	0.677	0.681	0.685	0.689	0.694	0.698
37	0.664	0.668	0.672	0.676	0.680	0.684	0.689
36	0.655	0.659	0.663	0.667	0.671	0.675	0.679
35	0.645	0.649	0.653	0.657	0.661	0.666	0.670
34	0.636	0.640	0.644	0.648	0.652	0.656	0.660
33	0.627	0.631	0.634	0.638	0.642	0.646	0.650
32	0.617	0.621	0.625	0.629	0.632	0.636	0.641
31	0.607	0.611	0.615	0.619	0.622	0.626	0.630

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	84	83	82	81	80	79	78
30	0.598	0.601	0.605	0.609	0.612	0.616	0.620
29	0.588	0.591	0.595	0.598	0.602	0.606	0.610
28	0.577	0.581	0.584	0.588	0.592	0.595	0.599
27	0.567	0.570	0.574	0.577	0.581	0.585	0.588
26	0.556	0.560	0.563	0.567	0.570	0.574	0.577
25	0.546	0.549	0.552	0.556	0.559	0.563	0.566
24	0.535	0.538	0.541	0.544	0.548	0.551	0.555
23	0.523	0.526	0.530	0.533	0.536	0.540	0.543
22	0.512	0.515	0.518	0.521	0.524	0.528	0.531
21	0.500	0.503	0.506	0.509	0.512	0.516	0.519
20	0.488	0.491	0.494	0.497	0.500	0.503	0.506
19	0.476	0.478	0.481	0.484	0.487	0.490	0.494
18	0.463	0.466	0.469	0.471	0.474	0.477	0.480
17	0.450	0.453	0.455	0.458	0.461	0.464	0.467
16	0.436	0.439	0.442	0.444	0.447	0.450	0.453
15	0.423	0.425	0.428	0.430	0.433	0.436	0.439
14	0.408	0.411	0.413	0.416	0.418	0.421	0.424
13	0.393	0.396	0.398	0.401	0.403	0.406	0.408
12	0.378	0.380	0.383	0.385	0.387	0.390	0.392
11	0.362	0.364	0.366	0.369	0.371	0.373	0.376
10	0.345	0.347	0.349	0.351	0.354	0.356	0.358
9	0.327	0.329	0.331	0.333	0.335	0.338	0.340
8	0.309	0.310	0.312	0.314	0.316	0.318	0.320
7	0.289	0.290	0.292	0.294	0.296	0.298	0.300
6	0.267	0.269	0.271	0.272	0.274	0.276	0.277
5	0.244	0.245	0.247	0.248	0.250	0.252	0.253
4	0.218	0.220	0.221	0.222	0.224	0.225	0.226
3	0.189	0.190	0.191	0.192	0.194	0.195	0.196
2	0.154	0.155	0.156	0.157	0.158	0.159	0.160
1	0.109	0.110	0.110	0.111	0.112	0.113	0.113

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	77	76	75	74	73	72	71
100	1.140	1.147	1.155	1.162	1.170	1.179	1.187
99	1.134	1.141	1.149	1.157	1.165	1.173	1.181
98	1.128	1.136	1.143	1.151	1.159	1.167	1.175
97	1.122	1.130	1.137	1.145	1.153	1.161	1.169
96	1.117	1.124	1.131	1.139	1.147	1.155	1.163
95	1.111	1.118	1.125	1.133	1.141	1.149	1.157
94	1.105	1.112	1.120	1.127	1.135	1.143	1.151
93	1.099	1.106	1.114	1.121	1.129	1.137	1.144
92	1.093	1.100	1.108	1.115	1.123	1.130	1.138
91	1.087	1.094	1.102	1.109	1.117	1.124	1.132
90	1.081	1.088	1.095	1.103	1.110	1.118	1.126
89	1.075	1.082	1.089	1.097	1.104	1.112	1.120
88	1.069	1.076	1.083	1.090	1.098	1.106	1.113
87	1.063	1.070	1.077	1.084	1.092	1.099	1.107
86	1.057	1.064	1.071	1.078	1.085	1.093	1.101
85	1.051	1.058	1.065	1.072	1.079	1.087	1.094
84	1.044	1.051	1.058	1.065	1.073	1.080	1.088
83	1.038	1.045	1.052	1.059	1.066	1.074	1.081
82	1.032	1.039	1.046	1.053	1.060	1.067	1.075
81	1.026	1.032	1.039	1.046	1.053	1.061	1.068
80	1.019	1.026	1.033	1.040	1.047	1.054	1.061
79	1.013	1.020	1.026	1.033	1.040	1.047	1.055
78	1.006	1.013	1.020	1.027	1.034	1.041	1.048
77	1.000	1.007	1.013	1.020	1.027	1.034	1.041
76	0.993	1.000	1.007	1.013	1.020	1.027	1.035
75	0.987	0.993	1.000	1.007	1.014	1.021	1.028
74	0.980	0.987	0.993	1.000	1.007	1.014	1.021
73	0.974	0.980	0.987	0.993	1.000	1.007	1.014
72	0.967	0.973	0.980	0.986	0.993	1.000	1.007
71	0.960	0.967	0.973	0.980	0.986	0.993	1.000
70	0.953	0.960	0.966	0.973	0.979	0.986	0.993
69	0.947	0.953	0.959	0.966	0.972	0.979	0.986
68	0.940	0.946	0.952	0.959	0.965	0.972	0.979
67	0.933	0.939	0.945	0.952	0.958	0.965	0.971
66	0.926	0.932	0.938	0.944	0.951	0.957	0.964

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	77	76	75	74	73	72	71
65	0.919	0.925	0.931	0.937	0.944	0.950	0.957
64	0.912	0.918	0.924	0.930	0.936	0.943	0.949
63	0.905	0.910	0.917	0.923	0.929	0.935	0.942
62	0.897	0.903	0.909	0.915	0.922	0.928	0.934
61	0.890	0.896	0.902	0.908	0.914	0.920	0.927
60	0.883	0.889	0.894	0.900	0.907	0.913	0.919
59	0.875	0.881	0.887	0.893	0.899	0.905	0.912
58	0.868	0.874	0.879	0.885	0.891	0.898	0.904
57	0.860	0.866	0.872	0.878	0.884	0.890	0.896
56	0.853	0.858	0.864	0.870	0.876	0.882	0.888
55	0.845	0.851	0.856	0.862	0.868	0.874	0.880
54	0.837	0.843	0.849	0.854	0.860	0.866	0.872
53	0.830	0.835	0.841	0.846	0.852	0.858	0.864
52	0.822	0.827	0.833	0.838	0.844	0.850	0.856
51	0.814	0.819	0.825	0.830	0.836	0.842	0.848
50	0.806	0.811	0.816	0.822	0.828	0.833	0.839
49	0.798	0.803	0.808	0.814	0.819	0.825	0.831
48	0.790	0.795	0.800	0.805	0.811	0.816	0.822
47	0.781	0.786	0.792	0.797	0.802	0.808	0.814
46	0.773	0.778	0.783	0.788	0.794	0.799	0.805
45	0.764	0.769	0.775	0.780	0.785	0.791	0.796
44	0.756	0.761	0.766	0.771	0.776	0.782	0.787
43	0.747	0.752	0.757	0.762	0.767	0.773	0.778
42	0.739	0.743	0.748	0.753	0.759	0.764	0.769
41	0.730	0.734	0.739	0.744	0.749	0.755	0.760
40	0.721	0.725	0.730	0.735	0.740	0.745	0.751
39	0.712	0.716	0.721	0.726	0.731	0.736	0.741
38	0.703	0.707	0.712	0.717	0.721	0.726	0.732
37	0.693	0.698	0.702	0.707	0.712	0.717	0.722
36	0.684	0.688	0.693	0.697	0.702	0.707	0.712
35	0.674	0.679	0.683	0.688	0.692	0.697	0.702
34	0.664	0.669	0.673	0.678	0.682	0.687	0.692
33	0.655	0.659	0.663	0.668	0.672	0.677	0.682
32	0.645	0.649	0.653	0.658	0.662	0.667	0.671
31	0.635	0.639	0.643	0.647	0.652	0.656	0.661

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	77	76	75	74	73	72	71
30	0.624	0.628	0.632	0.637	0.641	0.645	0.650
29	0.614	0.618	0.622	0.626	0.630	0.635	0.639
28	0.603	0.607	0.611	0.615	0.619	0.624	0.628
27	0.592	0.596	0.600	0.604	0.608	0.612	0.617
26	0.581	0.585	0.589	0.593	0.597	0.601	0.605
25	0.570	0.574	0.577	0.581	0.585	0.589	0.593
24	0.558	0.562	0.566	0.569	0.573	0.577	0.581
23	0.547	0.550	0.554	0.558	0.561	0.565	0.569
22	0.535	0.538	0.542	0.545	0.549	0.553	0.557
21	0.522	0.526	0.529	0.533	0.536	0.540	0.544
20	0.510	0.513	0.516	0.520	0.523	0.527	0.531
19	0.497	0.500	0.503	0.507	0.510	0.514	0.517
18	0.483	0.487	0.490	0.493	0.497	0.500	0.504
17	0.470	0.473	0.476	0.479	0.483	0.486	0.489
16	0.456	0.459	0.462	0.465	0.468	0.471	0.475
15	0.441	0.444	0.447	0.450	0.453	0.456	0.460
14	0.426	0.429	0.432	0.435	0.438	0.441	0.444
13	0.411	0.414	0.416	0.419	0.422	0.425	0.428
12	0.395	0.397	0.400	0.403	0.405	0.408	0.411
11	0.378	0.380	0.383	0.386	0.388	0.391	0.394
10	0.360	0.363	0.365	0.368	0.370	0.373	0.375
9	0.342	0.344	0.346	0.349	0.351	0.354	0.356
8	0.322	0.324	0.327	0.329	0.331	0.333	0.336
7	0.302	0.303	0.306	0.308	0.310	0.312	0.314
6	0.279	0.281	0.283	0.285	0.287	0.289	0.291
5	0.255	0.256	0.258	0.260	0.262	0.264	0.265
4	0.228	0.229	0.231	0.232	0.234	0.236	0.237
3	0.197	0.199	0.200	0.201	0.203	0.204	0.206
2	0.161	0.162	0.163	0.164	0.166	0.167	0.168
1	0.114	0.115	0.115	0.116	0.117	0.118	0.119

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	70	69	68	67	66	65	64
100	1.195	1.204	1.213	1.222	1.231	1.240	1.250
99	1.189	1.198	1.207	1.216	1.225	1.234	1.244
98	1.183	1.192	1.200	1.209	1.219	1.228	1.237
97	1.177	1.186	1.194	1.203	1.212	1.222	1.231
96	1.171	1.180	1.188	1.197	1.206	1.215	1.225
95	1.165	1.173	1.182	1.191	1.200	1.209	1.218
94	1.159	1.167	1.176	1.184	1.193	1.203	1.212
93	1.153	1.161	1.169	1.178	1.187	1.196	1.205
92	1.146	1.155	1.163	1.172	1.181	1.190	1.199
91	1.140	1.148	1.157	1.165	1.174	1.183	1.192
90	1.134	1.142	1.150	1.159	1.168	1.177	1.186
89	1.128	1.136	1.144	1.153	1.161	1.170	1.179
88	1.121	1.129	1.138	1.146	1.155	1.164	1.173
87	1.115	1.123	1.131	1.140	1.148	1.157	1.166
86	1.108	1.116	1.125	1.133	1.142	1.150	1.159
85	1.102	1.110	1.118	1.126	1.135	1.144	1.152
84	1.095	1.103	1.111	1.120	1.128	1.137	1.146
83	1.089	1.097	1.105	1.113	1.121	1.130	1.139
82	1.082	1.090	1.098	1.106	1.115	1.123	1.132
81	1.076	1.083	1.091	1.100	1.108	1.116	1.125
80	1.069	1.077	1.085	1.093	1.101	1.109	1.118
79	1.062	1.070	1.078	1.086	1.094	1.102	1.111
78	1.056	1.063	1.071	1.079	1.087	1.095	1.104
77	1.049	1.056	1.064	1.072	1.080	1.088	1.097
76	1.042	1.049	1.057	1.065	1.073	1.081	1.090
75	1.035	1.043	1.050	1.058	1.066	1.074	1.083
74	1.028	1.036	1.043	1.051	1.059	1.067	1.075
73	1.021	1.029	1.036	1.044	1.052	1.060	1.068
72	1.014	1.022	1.029	1.037	1.044	1.052	1.061
71	1.007	1.014	1.022	1.029	1.037	1.045	1.053
70	1.000	1.007	1.015	1.022	1.030	1.038	1.046
69	0.993	1.000	1.007	1.015	1.022	1.030	1.038
68	0.986	0.993	1.000	1.007	1.015	1.023	1.031
67	0.978	0.985	0.993	1.000	1.008	1.015	1.023
66	0.971	0.978	0.985	0.993	1.000	1.008	1.016

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	70	69	68	67	66	65	64
65	0.964	0.971	0.978	0.985	0.992	1.000	1.008
64	0.956	0.963	0.970	0.977	0.985	0.992	1.000
63	0.949	0.956	0.963	0.970	0.977	0.984	0.992
62	0.941	0.948	0.955	0.962	0.969	0.977	0.984
61	0.934	0.940	0.947	0.954	0.961	0.969	0.976
60	0.926	0.933	0.939	0.946	0.953	0.961	0.968
59	0.918	0.925	0.931	0.938	0.945	0.953	0.960
58	0.910	0.917	0.924	0.930	0.937	0.945	0.952
57	0.902	0.909	0.916	0.922	0.929	0.936	0.944
56	0.894	0.901	0.907	0.914	0.921	0.928	0.935
55	0.886	0.893	0.899	0.906	0.913	0.920	0.927
54	0.878	0.885	0.891	0.898	0.905	0.911	0.919
53	0.870	0.876	0.883	0.889	0.896	0.903	0.910
52	0.862	0.868	0.874	0.881	0.888	0.894	0.901
51	0.854	0.860	0.866	0.872	0.879	0.886	0.893
50	0.845	0.851	0.857	0.864	0.870	0.877	0.884
49	0.837	0.843	0.849	0.855	0.862	0.868	0.875
48	0.828	0.834	0.840	0.846	0.853	0.859	0.866
47	0.819	0.825	0.831	0.838	0.844	0.850	0.857
46	0.811	0.816	0.822	0.829	0.835	0.841	0.848
45	0.802	0.808	0.813	0.820	0.826	0.832	0.839
44	0.793	0.799	0.804	0.810	0.816	0.823	0.829
43	0.784	0.789	0.795	0.801	0.807	0.813	0.820
42	0.775	0.780	0.786	0.792	0.798	0.804	0.810
41	0.765	0.771	0.776	0.782	0.788	0.794	0.800
40	0.756	0.761	0.767	0.773	0.778	0.784	0.791
39	0.746	0.752	0.757	0.763	0.769	0.775	0.781
38	0.737	0.742	0.748	0.753	0.759	0.765	0.771
37	0.727	0.732	0.738	0.743	0.749	0.754	0.760
36	0.717	0.722	0.728	0.733	0.739	0.744	0.750
35	0.707	0.712	0.717	0.723	0.728	0.734	0.740
34	0.697	0.702	0.707	0.712	0.718	0.723	0.729
33	0.687	0.692	0.697	0.702	0.707	0.713	0.718
32	0.676	0.681	0.686	0.691	0.696	0.702	0.707
31	0.665	0.670	0.675	0.680	0.685	0.691	0.696

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	70	69	68	67	66	65	64
30	0.655	0.659	0.664	0.669	0.674	0.679	0.685
29	0.644	0.648	0.653	0.658	0.663	0.668	0.673
28	0.632	0.637	0.642	0.646	0.651	0.656	0.661
27	0.621	0.626	0.630	0.635	0.640	0.645	0.650
26	0.609	0.614	0.618	0.623	0.628	0.632	0.637
25	0.598	0.602	0.606	0.611	0.615	0.620	0.625
24	0.586	0.590	0.594	0.599	0.603	0.608	0.612
23	0.573	0.577	0.582	0.586	0.590	0.595	0.599
22	0.561	0.565	0.569	0.573	0.577	0.582	0.586
21	0.548	0.552	0.556	0.560	0.564	0.568	0.573
20	0.535	0.538	0.542	0.546	0.550	0.555	0.559
19	0.521	0.525	0.529	0.533	0.537	0.541	0.545
18	0.507	0.511	0.514	0.518	0.522	0.526	0.530
17	0.493	0.496	0.500	0.504	0.508	0.511	0.515
16	0.478	0.482	0.485	0.489	0.492	0.496	0.500
15	0.463	0.466	0.470	0.473	0.477	0.480	0.484
14	0.447	0.450	0.454	0.457	0.461	0.464	0.468
13	0.431	0.434	0.437	0.440	0.444	0.447	0.451
12	0.414	0.417	0.420	0.423	0.426	0.430	0.433
11	0.396	0.399	0.402	0.405	0.408	0.411	0.415
10	0.378	0.381	0.383	0.386	0.389	0.392	0.395
9	0.359	0.361	0.364	0.367	0.369	0.372	0.375
8	0.338	0.341	0.343	0.346	0.348	0.351	0.354
7	0.316	0.319	0.321	0.323	0.326	0.328	0.331
6	0.293	0.295	0.297	0.299	0.302	0.304	0.306
5	0.267	0.269	0.271	0.273	0.275	0.277	0.280
4	0.239	0.241	0.243	0.244	0.246	0.248	0.250
3	0.207	0.209	0.210	0.212	0.213	0.215	0.217
2	0.169	0.170	0.171	0.173	0.174	0.175	0.177
1	0.120	0.120	0.121	0.122	0.123	0.124	0.125

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	63	62	61	60	59	58	57
100	1.260	1.270	1.280	1.291	1.302	1.313	1.325
99	1.254	1.264	1.274	1.285	1.295	1.306	1.318
98	1.247	1.257	1.268	1.278	1.289	1.300	1.311
97	1.241	1.251	1.261	1.271	1.282	1.293	1.305
96	1.234	1.244	1.255	1.265	1.276	1.287	1.298
95	1.228	1.238	1.248	1.258	1.269	1.280	1.291
94	1.222	1.231	1.241	1.252	1.262	1.273	1.284
93	1.215	1.225	1.235	1.245	1.255	1.266	1.277
92	1.208	1.218	1.228	1.238	1.249	1.259	1.270
91	1.202	1.212	1.221	1.232	1.242	1.253	1.264
90	1.195	1.205	1.215	1.225	1.235	1.246	1.257
89	1.189	1.198	1.208	1.218	1.228	1.239	1.250
88	1.182	1.191	1.201	1.211	1.221	1.232	1.243
87	1.175	1.185	1.194	1.204	1.214	1.225	1.235
86	1.168	1.178	1.187	1.197	1.207	1.218	1.228
85	1.162	1.171	1.180	1.190	1.200	1.211	1.221
84	1.155	1.164	1.173	1.183	1.193	1.203	1.214
83	1.148	1.157	1.166	1.176	1.186	1.196	1.207
82	1.141	1.150	1.159	1.169	1.179	1.189	1.199
81	1.134	1.143	1.152	1.162	1.172	1.182	1.192
80	1.127	1.136	1.145	1.155	1.164	1.174	1.185
79	1.120	1.129	1.138	1.147	1.157	1.167	1.177
78	1.113	1.122	1.131	1.140	1.150	1.160	1.170
77	1.106	1.114	1.124	1.133	1.142	1.152	1.162
76	1.098	1.107	1.116	1.125	1.135	1.145	1.155
75	1.091	1.100	1.109	1.118	1.127	1.137	1.147
74	1.084	1.092	1.101	1.111	1.120	1.130	1.139
73	1.076	1.085	1.094	1.103	1.112	1.122	1.132
72	1.069	1.078	1.086	1.095	1.105	1.114	1.124
71	1.062	1.070	1.079	1.088	1.097	1.106	1.116
70	1.054	1.063	1.071	1.080	1.089	1.099	1.108
69	1.047	1.055	1.064	1.072	1.081	1.091	1.100
68	1.039	1.047	1.056	1.065	1.074	1.083	1.092
67	1.031	1.040	1.048	1.057	1.066	1.075	1.084
66	1.024	1.032	1.040	1.049	1.058	1.067	1.076

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	63	62	61	60	59	58	57
65	1.016	1.024	1.032	1.041	1.050	1.059	1.068
64	1.008	1.016	1.024	1.033	1.042	1.050	1.060
63	1.000	1.008	1.016	1.025	1.033	1.042	1.051
62	0.992	1.000	1.008	1.017	1.025	1.034	1.043
61	0.984	0.992	1.000	1.008	1.017	1.026	1.034
60	0.976	0.984	0.992	1.000	1.008	1.017	1.026
59	0.968	0.976	0.983	0.992	1.000	1.009	1.017
58	0.959	0.967	0.975	0.983	0.991	1.000	1.009
57	0.951	0.959	0.967	0.975	0.983	0.991	1.000
56	0.943	0.950	0.958	0.966	0.974	0.983	0.991
55	0.934	0.942	0.950	0.957	0.966	0.974	0.982
54	0.926	0.933	0.941	0.949	0.957	0.965	0.973
53	0.917	0.925	0.932	0.940	0.948	0.956	0.964
52	0.909	0.916	0.923	0.931	0.939	0.947	0.955
51	0.900	0.907	0.914	0.922	0.930	0.938	0.946
50	0.891	0.898	0.905	0.913	0.921	0.928	0.937
49	0.882	0.889	0.896	0.904	0.911	0.919	0.927
48	0.873	0.880	0.887	0.894	0.902	0.910	0.918
47	0.864	0.871	0.878	0.885	0.893	0.900	0.908
46	0.854	0.861	0.868	0.876	0.883	0.891	0.898
45	0.845	0.852	0.859	0.866	0.873	0.881	0.889
44	0.836	0.842	0.849	0.856	0.864	0.871	0.879
43	0.826	0.833	0.840	0.847	0.854	0.861	0.869
42	0.816	0.823	0.830	0.837	0.844	0.851	0.858
41	0.807	0.813	0.820	0.827	0.834	0.841	0.848
40	0.797	0.803	0.810	0.816	0.823	0.830	0.838
39	0.787	0.793	0.800	0.806	0.813	0.820	0.827
38	0.777	0.783	0.789	0.796	0.803	0.809	0.816
37	0.766	0.773	0.779	0.785	0.792	0.799	0.806
36	0.756	0.762	0.768	0.775	0.781	0.788	0.795
35	0.745	0.751	0.757	0.764	0.770	0.777	0.784
34	0.735	0.741	0.747	0.753	0.759	0.766	0.772
33	0.724	0.730	0.736	0.742	0.748	0.754	0.761
32	0.713	0.718	0.724	0.730	0.736	0.743	0.749
31	0.701	0.707	0.713	0.719	0.725	0.731	0.737

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	63	62	61	60	59	58	57
30	0.690	0.696	0.701	0.707	0.713	0.719	0.725
29	0.678	0.684	0.689	0.695	0.701	0.707	0.713
28	0.667	0.672	0.678	0.683	0.689	0.695	0.701
27	0.655	0.660	0.665	0.671	0.676	0.682	0.688
26	0.642	0.648	0.653	0.658	0.664	0.670	0.675
25	0.630	0.635	0.640	0.645	0.651	0.657	0.662
24	0.617	0.622	0.627	0.632	0.638	0.643	0.649
23	0.604	0.609	0.614	0.619	0.624	0.630	0.635
22	0.591	0.596	0.601	0.606	0.611	0.616	0.621
21	0.577	0.582	0.587	0.592	0.597	0.602	0.607
20	0.563	0.568	0.573	0.577	0.582	0.587	0.592
19	0.549	0.554	0.558	0.563	0.567	0.572	0.577
18	0.535	0.539	0.543	0.548	0.552	0.557	0.562
17	0.519	0.524	0.528	0.532	0.537	0.541	0.546
16	0.504	0.508	0.512	0.516	0.521	0.525	0.530
15	0.488	0.492	0.496	0.500	0.504	0.509	0.513
14	0.471	0.475	0.479	0.483	0.487	0.491	0.496
13	0.454	0.458	0.462	0.465	0.469	0.473	0.478
12	0.436	0.440	0.444	0.447	0.451	0.455	0.459
11	0.418	0.421	0.425	0.428	0.432	0.435	0.439
10	0.398	0.402	0.405	0.408	0.412	0.415	0.419
9	0.378	0.381	0.384	0.387	0.391	0.394	0.397
8	0.356	0.359	0.362	0.365	0.368	0.371	0.375
7	0.333	0.336	0.339	0.342	0.344	0.347	0.350
6	0.309	0.311	0.314	0.316	0.319	0.322	0.324
5	0.282	0.284	0.286	0.289	0.291	0.294	0.296
4	0.252	0.254	0.256	0.258	0.260	0.263	0.265
3	0.218	0.220	0.222	0.224	0.225	0.227	0.229
2	0.178	0.180	0.181	0.183	0.184	0.186	0.187
1	0.126	0.127	0.128	0.129	0.130	0.131	0.132

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	56	55	54	53	52	51	50
100	1.336	1.348	1.361	1.374	1.387	1.400	1.414
99	1.330	1.342	1.354	1.367	1.380	1.393	1.407
98	1.323	1.335	1.347	1.360	1.373	1.386	1.400
97	1.316	1.328	1.340	1.353	1.366	1.379	1.393
96	1.309	1.321	1.333	1.346	1.359	1.372	1.386
95	1.302	1.314	1.326	1.339	1.352	1.365	1.378
94	1.296	1.307	1.319	1.332	1.345	1.358	1.371
93	1.289	1.300	1.312	1.325	1.337	1.350	1.364
92	1.282	1.293	1.305	1.318	1.330	1.343	1.356
91	1.275	1.286	1.298	1.310	1.323	1.336	1.349
90	1.268	1.279	1.291	1.303	1.316	1.328	1.342
89	1.261	1.272	1.284	1.296	1.308	1.321	1.334
88	1.254	1.265	1.277	1.289	1.301	1.314	1.327
87	1.246	1.258	1.269	1.281	1.293	1.306	1.319
86	1.239	1.250	1.262	1.274	1.286	1.299	1.311
85	1.232	1.243	1.255	1.266	1.279	1.291	1.304
84	1.225	1.236	1.247	1.259	1.271	1.283	1.296
83	1.217	1.228	1.240	1.251	1.263	1.276	1.288
82	1.210	1.221	1.232	1.244	1.256	1.268	1.281
81	1.203	1.214	1.225	1.236	1.248	1.260	1.273
80	1.195	1.206	1.217	1.229	1.240	1.252	1.265
79	1.188	1.198	1.210	1.221	1.233	1.245	1.257
78	1.180	1.191	1.202	1.213	1.225	1.237	1.249
77	1.173	1.183	1.194	1.205	1.217	1.229	1.241
76	1.165	1.176	1.186	1.197	1.209	1.221	1.233
75	1.157	1.168	1.179	1.190	1.201	1.213	1.225
74	1.150	1.160	1.171	1.182	1.193	1.205	1.217
73	1.142	1.152	1.163	1.174	1.185	1.196	1.208
72	1.134	1.144	1.155	1.166	1.177	1.188	1.200
71	1.126	1.136	1.147	1.157	1.168	1.180	1.192
70	1.118	1.128	1.139	1.149	1.160	1.172	1.183
69	1.110	1.120	1.130	1.141	1.152	1.163	1.175
68	1.102	1.112	1.122	1.133	1.144	1.155	1.166
67	1.094	1.104	1.114	1.124	1.135	1.146	1.158
66	1.086	1.095	1.106	1.116	1.127	1.138	1.149

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	56	55	54	53	52	51	50
65	1.077	1.087	1.097	1.107	1.118	1.129	1.140
64	1.069	1.079	1.089	1.099	1.109	1.120	1.131
63	1.061	1.070	1.080	1.090	1.101	1.111	1.122
62	1.052	1.062	1.072	1.082	1.092	1.103	1.114
61	1.044	1.053	1.063	1.073	1.083	1.094	1.105
60	1.035	1.044	1.054	1.064	1.074	1.085	1.095
59	1.026	1.036	1.045	1.055	1.065	1.076	1.086
58	1.018	1.027	1.036	1.046	1.056	1.066	1.077
57	1.009	1.018	1.027	1.037	1.047	1.057	1.068
56	1.000	1.009	1.018	1.028	1.038	1.048	1.058
55	0.991	1.000	1.009	1.019	1.028	1.038	1.049
54	0.982	0.991	1.000	1.009	1.019	1.029	1.039
53	0.973	0.982	0.991	1.000	1.010	1.019	1.030
52	0.964	0.972	0.981	0.991	1.000	1.010	1.020
51	0.954	0.963	0.972	0.981	0.990	1.000	1.010
50	0.945	0.953	0.962	0.971	0.981	0.990	1.000
49	0.935	0.944	0.953	0.962	0.971	0.980	0.990
48	0.926	0.934	0.943	0.952	0.961	0.970	0.980
47	0.916	0.924	0.933	0.942	0.951	0.960	0.970
46	0.906	0.915	0.923	0.932	0.941	0.950	0.959
45	0.896	0.905	0.913	0.921	0.930	0.939	0.949
44	0.886	0.894	0.903	0.911	0.920	0.929	0.938
43	0.876	0.884	0.892	0.901	0.909	0.918	0.927
42	0.866	0.874	0.882	0.890	0.899	0.907	0.917
41	0.856	0.863	0.871	0.880	0.888	0.897	0.906
40	0.845	0.853	0.861	0.869	0.877	0.886	0.894
39	0.835	0.842	0.850	0.858	0.866	0.874	0.883
38	0.824	0.831	0.839	0.847	0.855	0.863	0.872
37	0.813	0.820	0.828	0.836	0.844	0.852	0.860
36	0.802	0.809	0.816	0.824	0.832	0.840	0.849
35	0.791	0.798	0.805	0.813	0.820	0.828	0.837
34	0.779	0.786	0.793	0.801	0.809	0.816	0.825
33	0.768	0.775	0.782	0.789	0.797	0.804	0.812
32	0.756	0.763	0.770	0.777	0.784	0.792	0.800
31	0.744	0.751	0.758	0.765	0.772	0.780	0.787

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	56	55	54	53	52	51	50
30	0.732	0.739	0.745	0.752	0.760	0.767	0.775
29	0.720	0.726	0.733	0.740	0.747	0.754	0.762
28	0.707	0.714	0.720	0.727	0.734	0.741	0.748
27	0.694	0.701	0.707	0.714	0.721	0.728	0.735
26	0.681	0.688	0.694	0.700	0.707	0.714	0.721
25	0.668	0.674	0.680	0.687	0.693	0.700	0.707
24	0.655	0.661	0.667	0.673	0.679	0.686	0.693
23	0.641	0.647	0.653	0.659	0.665	0.672	0.678
22	0.627	0.632	0.638	0.644	0.650	0.657	0.663
21	0.612	0.618	0.624	0.629	0.635	0.642	0.648
20	0.598	0.603	0.609	0.614	0.620	0.626	0.632
19	0.582	0.588	0.593	0.599	0.604	0.610	0.616
18	0.567	0.572	0.577	0.583	0.588	0.594	0.600
17	0.551	0.556	0.561	0.566	0.572	0.577	0.583
16	0.535	0.539	0.544	0.549	0.555	0.560	0.566
15	0.518	0.522	0.527	0.532	0.537	0.542	0.548
14	0.500	0.505	0.509	0.514	0.519	0.524	0.529
13	0.482	0.486	0.491	0.495	0.500	0.505	0.510
12	0.463	0.467	0.471	0.476	0.480	0.485	0.490
11	0.443	0.447	0.451	0.456	0.460	0.464	0.469
10	0.423	0.426	0.430	0.434	0.439	0.443	0.447
9	0.401	0.405	0.408	0.412	0.416	0.420	0.424
8	0.378	0.381	0.385	0.389	0.392	0.396	0.400
7	0.354	0.357	0.360	0.363	0.367	0.370	0.374
6	0.327	0.330	0.333	0.336	0.340	0.343	0.346
5	0.299	0.302	0.304	0.307	0.310	0.313	0.316
4	0.267	0.270	0.272	0.275	0.277	0.280	0.283
3	0.231	0.234	0.236	0.238	0.240	0.243	0.245
2	0.189	0.191	0.192	0.194	0.196	0.198	0.200
1	0.134	0.135	0.136	0.137	0.139	0.140	0.141

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	49	48	47	46	45	44	43
100	1.429	1.443	1.459	1.474	1.491	1.508	1.525
99	1.421	1.436	1.451	1.467	1.483	1.500	1.517
98	1.414	1.429	1.444	1.460	1.476	1.492	1.510
97	1.407	1.422	1.437	1.452	1.468	1.485	1.502
96	1.400	1.414	1.429	1.445	1.461	1.477	1.494
95	1.392	1.407	1.422	1.437	1.453	1.469	1.486
94	1.385	1.399	1.414	1.430	1.445	1.462	1.479
93	1.378	1.392	1.407	1.422	1.438	1.454	1.471
92	1.370	1.384	1.399	1.414	1.430	1.446	1.463
91	1.363	1.377	1.391	1.407	1.422	1.438	1.455
90	1.355	1.369	1.384	1.399	1.414	1.430	1.447
89	1.348	1.362	1.376	1.391	1.406	1.422	1.439
88	1.340	1.354	1.368	1.383	1.398	1.414	1.431
87	1.332	1.346	1.361	1.375	1.390	1.406	1.422
86	1.325	1.339	1.353	1.367	1.382	1.398	1.414
85	1.317	1.331	1.345	1.359	1.374	1.390	1.406
84	1.309	1.323	1.337	1.351	1.366	1.382	1.398
83	1.301	1.315	1.329	1.343	1.358	1.373	1.389
82	1.294	1.307	1.321	1.335	1.350	1.365	1.381
81	1.286	1.299	1.313	1.327	1.342	1.357	1.372
80	1.278	1.291	1.305	1.319	1.333	1.348	1.364
79	1.270	1.283	1.296	1.310	1.325	1.340	1.355
78	1.262	1.275	1.288	1.302	1.317	1.331	1.347
77	1.254	1.267	1.280	1.294	1.308	1.323	1.338
76	1.245	1.258	1.272	1.285	1.300	1.314	1.329
75	1.237	1.250	1.263	1.277	1.291	1.306	1.321
74	1.229	1.242	1.255	1.268	1.282	1.297	1.312
73	1.221	1.233	1.246	1.260	1.274	1.288	1.303
72	1.212	1.225	1.238	1.251	1.265	1.279	1.294
71	1.204	1.216	1.229	1.242	1.256	1.270	1.285
70	1.195	1.208	1.220	1.234	1.247	1.261	1.276
69	1.187	1.199	1.212	1.225	1.238	1.252	1.267
68	1.178	1.190	1.203	1.216	1.229	1.243	1.258
67	1.169	1.181	1.194	1.207	1.220	1.234	1.248
66	1.161	1.173	1.185	1.198	1.211	1.225	1.239

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	49	48	47	46	45	44	43
65	1.152	1.164	1.176	1.189	1.202	1.215	1.229
64	1.143	1.155	1.167	1.180	1.193	1.206	1.220
63	1.134	1.146	1.158	1.170	1.183	1.197	1.210
62	1.125	1.137	1.149	1.161	1.174	1.187	1.201
61	1.116	1.127	1.139	1.152	1.164	1.177	1.191
60	1.107	1.118	1.130	1.142	1.155	1.168	1.181
59	1.097	1.109	1.120	1.133	1.145	1.158	1.171
58	1.088	1.099	1.111	1.123	1.135	1.148	1.161
57	1.079	1.090	1.101	1.113	1.125	1.138	1.151
56	1.069	1.080	1.092	1.103	1.116	1.128	1.141
55	1.059	1.070	1.082	1.093	1.106	1.118	1.131
54	1.050	1.061	1.072	1.083	1.095	1.108	1.121
53	1.040	1.051	1.062	1.073	1.085	1.098	1.110
52	1.030	1.041	1.052	1.063	1.075	1.087	1.100
51	1.020	1.031	1.042	1.053	1.065	1.077	1.089
50	1.010	1.021	1.031	1.043	1.054	1.066	1.078
49	1.000	1.010	1.021	1.032	1.043	1.055	1.067
48	0.990	1.000	1.011	1.022	1.033	1.044	1.057
47	0.979	0.990	1.000	1.011	1.022	1.034	1.045
46	0.969	0.979	0.989	1.000	1.011	1.022	1.034
45	0.958	0.968	0.978	0.989	1.000	1.011	1.023
44	0.948	0.957	0.968	0.978	0.989	1.000	1.012
43	0.937	0.946	0.957	0.967	0.978	0.989	1.000
42	0.926	0.935	0.945	0.956	0.966	0.977	0.988
41	0.915	0.924	0.934	0.944	0.955	0.965	0.976
40	0.904	0.913	0.923	0.933	0.943	0.953	0.964
39	0.892	0.901	0.911	0.921	0.931	0.941	0.952
38	0.881	0.890	0.899	0.909	0.919	0.929	0.940
37	0.869	0.878	0.887	0.897	0.907	0.917	0.928
36	0.857	0.866	0.875	0.885	0.894	0.905	0.915
35	0.845	0.854	0.863	0.872	0.882	0.892	0.902
34	0.833	0.842	0.851	0.860	0.869	0.879	0.889
33	0.821	0.829	0.838	0.847	0.856	0.866	0.876
32	0.808	0.816	0.825	0.834	0.843	0.853	0.863
31	0.795	0.804	0.812	0.821	0.830	0.839	0.849

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	49	48	47	46	45	44	43
30	0.782	0.791	0.799	0.808	0.816	0.826	0.835
29	0.769	0.777	0.786	0.794	0.803	0.812	0.821
28	0.756	0.764	0.772	0.780	0.789	0.798	0.807
27	0.742	0.750	0.758	0.766	0.775	0.783	0.792
26	0.728	0.736	0.744	0.752	0.760	0.769	0.778
25	0.714	0.722	0.729	0.737	0.745	0.754	0.762
24	0.700	0.707	0.715	0.722	0.730	0.739	0.747
23	0.685	0.692	0.700	0.707	0.715	0.723	0.731
22	0.670	0.677	0.684	0.692	0.699	0.707	0.715
21	0.655	0.661	0.668	0.676	0.683	0.691	0.699
20	0.639	0.645	0.652	0.659	0.667	0.674	0.682
19	0.623	0.629	0.636	0.643	0.650	0.657	0.665
18	0.606	0.612	0.619	0.626	0.632	0.640	0.647
17	0.589	0.595	0.601	0.608	0.615	0.622	0.629
16	0.571	0.577	0.583	0.590	0.596	0.603	0.610
15	0.553	0.559	0.565	0.571	0.577	0.584	0.591
14	0.535	0.540	0.546	0.552	0.558	0.564	0.571
13	0.515	0.520	0.526	0.532	0.537	0.544	0.550
12	0.495	0.500	0.505	0.511	0.516	0.522	0.528
11	0.474	0.479	0.484	0.489	0.494	0.500	0.506
10	0.452	0.456	0.461	0.466	0.471	0.477	0.482
9	0.429	0.433	0.438	0.442	0.447	0.452	0.457
8	0.404	0.408	0.413	0.417	0.422	0.426	0.431
7	0.378	0.382	0.386	0.390	0.394	0.399	0.403
6	0.350	0.354	0.357	0.361	0.365	0.369	0.374
5	0.319	0.323	0.326	0.330	0.333	0.337	0.341
4	0.286	0.289	0.292	0.295	0.298	0.302	0.305
3	0.247	0.250	0.253	0.255	0.258	0.261	0.264
2	0.202	0.204	0.206	0.209	0.211	0.213	0.216
1	0.143	0.144	0.146	0.147	0.149	0.151	0.152

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	42	41	40	39	38	37	36
100	1.543	1.562	1.581	1.601	1.622	1.644	1.667
99	1.535	1.554	1.573	1.593	1.614	1.636	1.658
98	1.528	1.546	1.565	1.585	1.606	1.627	1.650
97	1.520	1.538	1.557	1.577	1.598	1.619	1.641
96	1.512	1.530	1.549	1.569	1.589	1.611	1.633
95	1.504	1.522	1.541	1.561	1.581	1.602	1.624
94	1.496	1.514	1.533	1.553	1.573	1.594	1.616
93	1.488	1.506	1.525	1.544	1.564	1.585	1.607
92	1.480	1.498	1.517	1.536	1.556	1.577	1.599
91	1.472	1.490	1.508	1.528	1.547	1.568	1.590
90	1.464	1.482	1.500	1.519	1.539	1.560	1.581
89	1.456	1.473	1.492	1.511	1.530	1.551	1.572
88	1.447	1.465	1.483	1.502	1.522	1.542	1.563
87	1.439	1.457	1.475	1.494	1.513	1.533	1.555
86	1.431	1.448	1.466	1.485	1.504	1.525	1.546
85	1.423	1.440	1.458	1.476	1.496	1.516	1.537
84	1.414	1.431	1.449	1.468	1.487	1.507	1.528
83	1.406	1.423	1.440	1.459	1.478	1.498	1.518
82	1.397	1.414	1.432	1.450	1.469	1.489	1.509
81	1.389	1.406	1.423	1.441	1.460	1.480	1.500
80	1.380	1.397	1.414	1.432	1.451	1.470	1.491
79	1.371	1.388	1.405	1.423	1.442	1.461	1.481
78	1.363	1.379	1.396	1.414	1.433	1.452	1.472
77	1.354	1.370	1.387	1.405	1.423	1.443	1.462
76	1.345	1.361	1.378	1.396	1.414	1.433	1.453
75	1.336	1.353	1.369	1.387	1.405	1.424	1.443
74	1.327	1.343	1.360	1.377	1.395	1.414	1.434
73	1.318	1.334	1.351	1.368	1.386	1.405	1.424
72	1.309	1.325	1.342	1.359	1.376	1.395	1.414
71	1.300	1.316	1.332	1.349	1.367	1.385	1.404
70	1.291	1.307	1.323	1.340	1.357	1.375	1.394
69	1.282	1.297	1.313	1.330	1.348	1.366	1.384
68	1.272	1.288	1.304	1.320	1.338	1.356	1.374
67	1.263	1.278	1.294	1.311	1.328	1.346	1.364
66	1.254	1.269	1.285	1.301	1.318	1.336	1.354

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	42	41	40	39	38	37	36
65	1.244	1.259	1.275	1.291	1.308	1.325	1.344
64	1.234	1.249	1.265	1.281	1.298	1.315	1.333
63	1.225	1.240	1.255	1.271	1.288	1.305	1.323
62	1.215	1.230	1.245	1.261	1.277	1.294	1.312
61	1.205	1.220	1.235	1.251	1.267	1.284	1.302
60	1.195	1.210	1.225	1.240	1.257	1.273	1.291
59	1.185	1.200	1.214	1.230	1.246	1.263	1.280
58	1.175	1.189	1.204	1.219	1.235	1.252	1.269
57	1.165	1.179	1.194	1.209	1.225	1.241	1.258
56	1.155	1.169	1.183	1.198	1.214	1.230	1.247
55	1.144	1.158	1.173	1.188	1.203	1.219	1.236
54	1.134	1.148	1.162	1.177	1.192	1.208	1.225
53	1.123	1.137	1.151	1.166	1.181	1.197	1.213
52	1.113	1.126	1.140	1.155	1.170	1.185	1.202
51	1.102	1.115	1.129	1.144	1.158	1.174	1.190
50	1.091	1.104	1.118	1.132	1.147	1.162	1.179
49	1.080	1.093	1.107	1.121	1.136	1.151	1.167
48	1.069	1.082	1.095	1.109	1.124	1.139	1.155
47	1.058	1.071	1.084	1.098	1.112	1.127	1.143
46	1.047	1.059	1.072	1.086	1.100	1.115	1.130
45	1.035	1.048	1.061	1.074	1.088	1.103	1.118
44	1.024	1.036	1.049	1.062	1.076	1.090	1.106
43	1.012	1.024	1.037	1.050	1.064	1.078	1.093
42	1.000	1.012	1.025	1.038	1.051	1.065	1.080
41	0.988	1.000	1.012	1.025	1.039	1.053	1.067
40	0.976	0.988	1.000	1.013	1.026	1.040	1.054
39	0.964	0.975	0.987	1.000	1.013	1.027	1.041
38	0.951	0.963	0.975	0.987	1.000	1.013	1.027
37	0.939	0.950	0.962	0.974	0.987	1.000	1.014
36	0.926	0.937	0.949	0.961	0.973	0.986	1.000
35	0.913	0.924	0.935	0.947	0.960	0.973	0.986
34	0.900	0.911	0.922	0.934	0.946	0.959	0.972
33	0.886	0.897	0.908	0.920	0.932	0.944	0.957
32	0.873	0.883	0.894	0.906	0.918	0.930	0.943
31	0.859	0.870	0.880	0.892	0.903	0.915	0.928

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	42	41	40	39	38	37	36
30	0.845	0.855	0.866	0.877	0.889	0.900	0.913
29	0.831	0.841	0.851	0.862	0.874	0.885	0.898
28	0.816	0.826	0.837	0.847	0.858	0.870	0.882
27	0.802	0.812	0.822	0.832	0.843	0.854	0.866
26	0.787	0.796	0.806	0.816	0.827	0.838	0.850
25	0.772	0.781	0.791	0.801	0.811	0.822	0.833
24	0.756	0.765	0.775	0.784	0.795	0.805	0.816
23	0.740	0.749	0.758	0.768	0.778	0.788	0.799
22	0.724	0.733	0.742	0.751	0.761	0.771	0.782
21	0.707	0.716	0.725	0.734	0.743	0.753	0.764
20	0.690	0.698	0.707	0.716	0.725	0.735	0.745
19	0.673	0.681	0.689	0.698	0.707	0.717	0.726
18	0.655	0.663	0.671	0.679	0.688	0.697	0.707
17	0.636	0.644	0.652	0.660	0.669	0.678	0.687
16	0.617	0.625	0.632	0.641	0.649	0.658	0.667
15	0.598	0.605	0.612	0.620	0.628	0.637	0.645
14	0.577	0.584	0.592	0.599	0.607	0.615	0.624
13	0.556	0.563	0.570	0.577	0.585	0.593	0.601
12	0.535	0.541	0.548	0.555	0.562	0.569	0.577
11	0.512	0.518	0.524	0.531	0.538	0.545	0.553
10	0.488	0.494	0.500	0.506	0.513	0.520	0.527
9	0.463	0.469	0.474	0.480	0.487	0.493	0.500
8	0.436	0.442	0.447	0.453	0.459	0.465	0.471
7	0.408	0.413	0.418	0.424	0.429	0.435	0.441
6	0.378	0.383	0.387	0.392	0.397	0.403	0.408
5	0.345	0.349	0.354	0.358	0.363	0.368	0.373
4	0.309	0.312	0.316	0.320	0.324	0.329	0.333
3	0.267	0.271	0.274	0.277	0.281	0.285	0.289
2	0.218	0.221	0.224	0.226	0.229	0.232	0.236
1	0.154	0.156	0.158	0.160	0.162	0.164	0.167

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	35	34	33	32	31	30	29
100	1.690	1.715	1.741	1.768	1.796	1.826	1.857
99	1.682	1.706	1.732	1.759	1.787	1.817	1.848
98	1.673	1.698	1.723	1.750	1.778	1.807	1.838
97	1.665	1.689	1.714	1.741	1.769	1.798	1.829
96	1.656	1.680	1.706	1.732	1.760	1.789	1.819
95	1.648	1.672	1.697	1.723	1.751	1.780	1.810
94	1.639	1.663	1.688	1.714	1.741	1.770	1.800
93	1.630	1.654	1.679	1.705	1.732	1.761	1.791
92	1.621	1.645	1.670	1.696	1.723	1.751	1.781
91	1.612	1.636	1.661	1.686	1.713	1.742	1.771
90	1.604	1.627	1.651	1.677	1.704	1.732	1.762
89	1.595	1.618	1.642	1.668	1.694	1.722	1.752
88	1.586	1.609	1.633	1.658	1.685	1.713	1.742
87	1.577	1.600	1.624	1.649	1.675	1.703	1.732
86	1.568	1.590	1.614	1.639	1.666	1.693	1.722
85	1.558	1.581	1.605	1.630	1.656	1.683	1.712
84	1.549	1.572	1.595	1.620	1.646	1.673	1.702
83	1.540	1.562	1.586	1.611	1.636	1.663	1.692
82	1.531	1.553	1.576	1.601	1.626	1.653	1.682
81	1.521	1.543	1.567	1.591	1.616	1.643	1.671
80	1.512	1.534	1.557	1.581	1.606	1.633	1.661
79	1.502	1.524	1.547	1.571	1.596	1.623	1.650
78	1.493	1.515	1.537	1.561	1.586	1.612	1.640
77	1.483	1.505	1.528	1.551	1.576	1.602	1.629
76	1.474	1.495	1.518	1.541	1.566	1.592	1.619
75	1.464	1.485	1.508	1.531	1.555	1.581	1.608
74	1.454	1.475	1.497	1.521	1.545	1.571	1.597
73	1.444	1.465	1.487	1.510	1.535	1.560	1.587
72	1.434	1.455	1.477	1.500	1.524	1.549	1.576
71	1.424	1.445	1.467	1.490	1.513	1.538	1.565
70	1.414	1.435	1.456	1.479	1.503	1.528	1.554
69	1.404	1.425	1.446	1.468	1.492	1.517	1.543
68	1.394	1.414	1.435	1.458	1.481	1.506	1.531
67	1.384	1.404	1.425	1.447	1.470	1.494	1.520
66	1.373	1.393	1.414	1.436	1.459	1.483	1.509

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	35	34	33	32	31	30	29
65	1.363	1.383	1.403	1.425	1.448	1.472	1.497
64	1.352	1.372	1.393	1.414	1.437	1.461	1.486
63	1.342	1.361	1.382	1.403	1.426	1.449	1.474
62	1.331	1.350	1.371	1.392	1.414	1.438	1.462
61	1.320	1.339	1.360	1.381	1.403	1.426	1.450
60	1.309	1.328	1.348	1.369	1.391	1.414	1.438
59	1.298	1.317	1.337	1.358	1.380	1.402	1.426
58	1.287	1.306	1.326	1.346	1.368	1.390	1.414
57	1.276	1.295	1.314	1.335	1.356	1.378	1.402
56	1.265	1.283	1.303	1.323	1.344	1.366	1.390
55	1.254	1.272	1.291	1.311	1.332	1.354	1.377
54	1.242	1.260	1.279	1.299	1.320	1.342	1.365
53	1.231	1.249	1.267	1.287	1.308	1.329	1.352
52	1.219	1.237	1.255	1.275	1.295	1.317	1.339
51	1.207	1.225	1.243	1.262	1.283	1.304	1.326
50	1.195	1.213	1.231	1.250	1.270	1.291	1.313
49	1.183	1.200	1.219	1.237	1.257	1.278	1.300
48	1.171	1.188	1.206	1.225	1.244	1.265	1.287
47	1.159	1.176	1.193	1.212	1.231	1.252	1.273
46	1.146	1.163	1.181	1.199	1.218	1.238	1.259
45	1.134	1.150	1.168	1.186	1.205	1.225	1.246
44	1.121	1.138	1.155	1.173	1.191	1.211	1.232
43	1.108	1.125	1.142	1.159	1.178	1.197	1.218
42	1.095	1.111	1.128	1.146	1.164	1.183	1.203
41	1.082	1.098	1.115	1.132	1.150	1.169	1.189
40	1.069	1.085	1.101	1.118	1.136	1.155	1.174
39	1.056	1.071	1.087	1.104	1.122	1.140	1.160
38	1.042	1.057	1.073	1.090	1.107	1.125	1.145
37	1.028	1.043	1.059	1.075	1.092	1.111	1.130
36	1.014	1.029	1.044	1.061	1.078	1.095	1.114
35	1.000	1.015	1.030	1.046	1.063	1.080	1.099
34	0.986	1.000	1.015	1.031	1.047	1.065	1.083
33	0.971	0.985	1.000	1.016	1.032	1.049	1.067
32	0.956	0.970	0.985	1.000	1.016	1.033	1.050
31	0.941	0.955	0.969	0.984	1.000	1.017	1.034

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	35	34	33	32	31	30	29
30	0.926	0.939	0.953	0.968	0.984	1.000	1.017
29	0.910	0.924	0.937	0.952	0.967	0.983	1.000
28	0.894	0.907	0.921	0.935	0.950	0.966	0.983
27	0.878	0.891	0.905	0.919	0.933	0.949	0.965
26	0.862	0.874	0.888	0.901	0.916	0.931	0.947
25	0.845	0.857	0.870	0.884	0.898	0.913	0.928
24	0.828	0.840	0.853	0.866	0.880	0.894	0.910
23	0.811	0.822	0.835	0.848	0.861	0.876	0.891
22	0.793	0.804	0.816	0.829	0.842	0.856	0.871
21	0.775	0.786	0.798	0.810	0.823	0.837	0.851
20	0.756	0.767	0.778	0.791	0.803	0.816	0.830
19	0.737	0.748	0.759	0.771	0.783	0.796	0.809
18	0.717	0.728	0.739	0.750	0.762	0.775	0.788
17	0.697	0.707	0.718	0.729	0.741	0.753	0.766
16	0.676	0.686	0.696	0.707	0.718	0.730	0.743
15	0.655	0.664	0.674	0.685	0.696	0.707	0.719
14	0.632	0.642	0.651	0.661	0.672	0.683	0.695
13	0.609	0.618	0.628	0.637	0.648	0.658	0.670
12	0.586	0.594	0.603	0.612	0.622	0.632	0.643
11	0.561	0.569	0.577	0.586	0.596	0.606	0.616
10	0.535	0.542	0.550	0.559	0.568	0.577	0.587
9	0.507	0.514	0.522	0.530	0.539	0.548	0.557
8	0.478	0.485	0.492	0.500	0.508	0.516	0.525
7	0.447	0.454	0.461	0.468	0.475	0.483	0.491
6	0.414	0.420	0.426	0.433	0.440	0.447	0.455
5	0.378	0.383	0.389	0.395	0.402	0.408	0.415
4	0.338	0.343	0.348	0.354	0.359	0.365	0.371
3	0.293	0.297	0.302	0.306	0.311	0.316	0.322
2	0.239	0.243	0.246	0.250	0.254	0.258	0.263
1	0.169	0.171	0.174	0.177	0.180	0.183	0.186

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	28	27	26	25	24	23	22
100	1.890	1.925	1.961	2.000	2.041	2.085	2.132
99	1.880	1.915	1.951	1.990	2.031	2.075	2.121
98	1.871	1.905	1.941	1.980	2.021	2.064	2.111
97	1.861	1.895	1.932	1.970	2.010	2.054	2.100
96	1.852	1.886	1.922	1.960	2.000	2.043	2.089
95	1.842	1.876	1.912	1.949	1.990	2.032	2.078
94	1.832	1.866	1.901	1.939	1.979	2.022	2.067
93	1.822	1.856	1.891	1.929	1.969	2.011	2.056
92	1.813	1.846	1.881	1.918	1.958	2.000	2.045
91	1.803	1.836	1.871	1.908	1.947	1.989	2.034
90	1.793	1.826	1.861	1.897	1.936	1.978	2.023
89	1.783	1.816	1.850	1.887	1.926	1.967	2.011
88	1.773	1.805	1.840	1.876	1.915	1.956	2.000
87	1.763	1.795	1.829	1.865	1.904	1.945	1.989
86	1.753	1.785	1.819	1.855	1.893	1.934	1.977
85	1.742	1.774	1.808	1.844	1.882	1.922	1.966
84	1.732	1.764	1.797	1.833	1.871	1.911	1.954
83	1.722	1.753	1.787	1.822	1.860	1.900	1.942
82	1.711	1.743	1.776	1.811	1.848	1.888	1.931
81	1.701	1.732	1.765	1.800	1.837	1.877	1.919
80	1.690	1.721	1.754	1.789	1.826	1.865	1.907
79	1.680	1.711	1.743	1.778	1.814	1.853	1.895
78	1.669	1.700	1.732	1.766	1.803	1.842	1.883
77	1.658	1.689	1.721	1.755	1.791	1.830	1.871
76	1.648	1.678	1.710	1.744	1.780	1.818	1.859
75	1.637	1.667	1.698	1.732	1.768	1.806	1.846
74	1.626	1.656	1.687	1.720	1.756	1.794	1.834
73	1.615	1.644	1.676	1.709	1.744	1.782	1.822
72	1.604	1.633	1.664	1.697	1.732	1.769	1.809
71	1.592	1.622	1.653	1.685	1.720	1.757	1.796
70	1.581	1.610	1.641	1.673	1.708	1.745	1.784
69	1.570	1.599	1.629	1.661	1.696	1.732	1.771
68	1.558	1.587	1.617	1.649	1.683	1.719	1.758
67	1.547	1.575	1.605	1.637	1.671	1.707	1.745
66	1.535	1.563	1.593	1.625	1.658	1.694	1.732

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	28	27	26	25	24	23	22
65	1.524	1.552	1.581	1.612	1.646	1.681	1.719
64	1.512	1.540	1.569	1.600	1.633	1.668	1.706
63	1.500	1.528	1.557	1.587	1.620	1.655	1.692
62	1.488	1.515	1.544	1.575	1.607	1.642	1.679
61	1.476	1.503	1.532	1.562	1.594	1.629	1.665
60	1.464	1.491	1.519	1.549	1.581	1.615	1.651
59	1.452	1.478	1.506	1.536	1.568	1.602	1.638
58	1.439	1.466	1.494	1.523	1.555	1.588	1.624
57	1.427	1.453	1.481	1.510	1.541	1.574	1.610
56	1.414	1.440	1.468	1.497	1.528	1.560	1.595
55	1.402	1.427	1.454	1.483	1.514	1.546	1.581
54	1.389	1.414	1.441	1.470	1.500	1.532	1.567
53	1.376	1.401	1.428	1.456	1.486	1.518	1.552
52	1.363	1.388	1.414	1.442	1.472	1.504	1.537
51	1.350	1.374	1.401	1.428	1.458	1.489	1.523
50	1.336	1.361	1.387	1.414	1.443	1.474	1.508
49	1.323	1.347	1.373	1.400	1.429	1.460	1.492
48	1.309	1.333	1.359	1.386	1.414	1.445	1.477
47	1.296	1.319	1.345	1.371	1.399	1.430	1.462
46	1.282	1.305	1.330	1.356	1.384	1.414	1.446
45	1.268	1.291	1.316	1.342	1.369	1.399	1.430
44	1.254	1.277	1.301	1.327	1.354	1.383	1.414
43	1.239	1.262	1.286	1.311	1.339	1.367	1.398
42	1.225	1.247	1.271	1.296	1.323	1.351	1.382
41	1.210	1.232	1.256	1.281	1.307	1.335	1.365
40	1.195	1.217	1.240	1.265	1.291	1.319	1.348
39	1.180	1.202	1.225	1.249	1.275	1.302	1.331
38	1.165	1.186	1.209	1.233	1.258	1.285	1.314
37	1.150	1.171	1.193	1.217	1.242	1.268	1.297
36	1.134	1.155	1.177	1.200	1.225	1.251	1.279
35	1.118	1.139	1.160	1.183	1.208	1.234	1.261
34	1.102	1.122	1.144	1.166	1.190	1.216	1.243
33	1.086	1.106	1.127	1.149	1.173	1.198	1.225
32	1.069	1.089	1.109	1.131	1.155	1.180	1.206
31	1.052	1.072	1.092	1.114	1.137	1.161	1.187

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	28	27	26	25	24	23	22
30	1.035	1.054	1.074	1.095	1.118	1.142	1.168
29	1.018	1.036	1.056	1.077	1.099	1.123	1.148
28	1.000	1.018	1.038	1.058	1.080	1.103	1.128
27	0.982	1.000	1.019	1.039	1.061	1.083	1.108
26	0.964	0.981	1.000	1.020	1.041	1.063	1.087
25	0.945	0.962	0.981	1.000	1.021	1.043	1.066
24	0.926	0.943	0.961	0.980	1.000	1.022	1.044
23	0.906	0.923	0.941	0.959	0.979	1.000	1.022
22	0.886	0.903	0.920	0.938	0.957	0.978	1.000
21	0.866	0.882	0.899	0.917	0.935	0.956	0.977
20	0.845	0.861	0.877	0.894	0.913	0.933	0.953
19	0.824	0.839	0.855	0.872	0.890	0.909	0.929
18	0.802	0.816	0.832	0.849	0.866	0.885	0.905
17	0.779	0.793	0.809	0.825	0.842	0.860	0.879
16	0.756	0.770	0.784	0.800	0.816	0.834	0.853
15	0.732	0.745	0.760	0.775	0.791	0.808	0.826
14	0.707	0.720	0.734	0.748	0.764	0.780	0.798
13	0.681	0.694	0.707	0.721	0.736	0.752	0.769
12	0.655	0.667	0.679	0.693	0.707	0.722	0.739
11	0.627	0.638	0.650	0.663	0.677	0.692	0.707
10	0.598	0.609	0.620	0.632	0.645	0.659	0.674
9	0.567	0.577	0.588	0.600	0.612	0.626	0.640
8	0.535	0.544	0.555	0.566	0.577	0.590	0.603
7	0.500	0.509	0.519	0.529	0.540	0.552	0.564
6	0.463	0.471	0.480	0.490	0.500	0.511	0.522
5	0.423	0.430	0.439	0.447	0.456	0.466	0.477
4	0.378	0.385	0.392	0.400	0.408	0.417	0.426
3	0.327	0.333	0.340	0.346	0.354	0.361	0.369
2	0.267	0.272	0.277	0.283	0.289	0.295	0.302
1	0.189	0.192	0.196	0.200	0.204	0.209	0.213

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	21	20	19	18	17	16	15
100	2.182	2.236	2.294	2.357	2.425	2.500	2.582
99	2.171	2.225	2.283	2.345	2.413	2.487	2.569
98	2.160	2.214	2.271	2.333	2.401	2.475	2.556
97	2.149	2.202	2.259	2.321	2.389	2.462	2.543
96	2.138	2.191	2.248	2.309	2.376	2.449	2.530
95	2.127	2.179	2.236	2.297	2.364	2.437	2.517
94	2.116	2.168	2.224	2.285	2.351	2.424	2.503
93	2.104	2.156	2.212	2.273	2.339	2.411	2.490
92	2.093	2.145	2.200	2.261	2.326	2.398	2.477
91	2.082	2.133	2.188	2.248	2.314	2.385	2.463
90	2.070	2.121	2.176	2.236	2.301	2.372	2.449
89	2.059	2.110	2.164	2.224	2.288	2.358	2.436
88	2.047	2.098	2.152	2.211	2.275	2.345	2.422
87	2.035	2.086	2.140	2.198	2.262	2.332	2.408
86	2.024	2.074	2.128	2.186	2.249	2.318	2.394
85	2.012	2.062	2.115	2.173	2.236	2.305	2.380
84	2.000	2.049	2.103	2.160	2.223	2.291	2.366
83	1.988	2.037	2.090	2.147	2.210	2.278	2.352
82	1.976	2.025	2.077	2.134	2.196	2.264	2.338
81	1.964	2.012	2.065	2.121	2.183	2.250	2.324
80	1.952	2.000	2.052	2.108	2.169	2.236	2.309
79	1.940	1.987	2.039	2.095	2.156	2.222	2.295
78	1.927	1.975	2.026	2.082	2.142	2.208	2.280
77	1.915	1.962	2.013	2.068	2.128	2.194	2.266
76	1.902	1.949	2.000	2.055	2.114	2.179	2.251
75	1.890	1.936	1.987	2.041	2.100	2.165	2.236
74	1.877	1.924	1.974	2.028	2.086	2.151	2.221
73	1.864	1.910	1.960	2.014	2.072	2.136	2.206
72	1.852	1.897	1.947	2.000	2.058	2.121	2.191
71	1.839	1.884	1.933	1.986	2.044	2.107	2.176
70	1.826	1.871	1.919	1.972	2.029	2.092	2.160
69	1.813	1.857	1.906	1.958	2.015	2.077	2.145
68	1.799	1.844	1.892	1.944	2.000	2.062	2.129
67	1.786	1.830	1.878	1.929	1.985	2.046	2.113
66	1.773	1.817	1.864	1.915	1.970	2.031	2.098

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	21	20	19	18	17	16	15
65	1.759	1.803	1.850	1.900	1.955	2.016	2.082
64	1.746	1.789	1.835	1.886	1.940	2.000	2.066
63	1.732	1.775	1.821	1.871	1.925	1.984	2.049
62	1.718	1.761	1.806	1.856	1.910	1.969	2.033
61	1.704	1.746	1.792	1.841	1.894	1.953	2.017
60	1.690	1.732	1.777	1.826	1.879	1.936	2.000
59	1.676	1.718	1.762	1.810	1.863	1.920	1.983
58	1.662	1.703	1.747	1.795	1.847	1.904	1.966
57	1.648	1.688	1.732	1.780	1.831	1.887	1.949
56	1.633	1.673	1.717	1.764	1.815	1.871	1.932
55	1.618	1.658	1.701	1.748	1.799	1.854	1.915
54	1.604	1.643	1.686	1.732	1.782	1.837	1.897
53	1.589	1.628	1.670	1.716	1.766	1.820	1.880
52	1.574	1.612	1.654	1.700	1.749	1.803	1.862
51	1.558	1.597	1.638	1.683	1.732	1.785	1.844
50	1.543	1.581	1.622	1.667	1.715	1.768	1.826
49	1.528	1.565	1.606	1.650	1.698	1.750	1.807
48	1.512	1.549	1.589	1.633	1.680	1.732	1.789
47	1.496	1.533	1.573	1.616	1.663	1.714	1.770
46	1.480	1.517	1.556	1.599	1.645	1.696	1.751
45	1.464	1.500	1.539	1.581	1.627	1.677	1.732
44	1.447	1.483	1.522	1.563	1.609	1.658	1.713
43	1.431	1.466	1.504	1.546	1.590	1.639	1.693
42	1.414	1.449	1.487	1.528	1.572	1.620	1.673
41	1.397	1.432	1.469	1.509	1.553	1.601	1.653
40	1.380	1.414	1.451	1.491	1.534	1.581	1.633
39	1.363	1.396	1.433	1.472	1.515	1.561	1.612
38	1.345	1.378	1.414	1.453	1.495	1.541	1.592
37	1.327	1.360	1.395	1.434	1.475	1.521	1.571
36	1.309	1.342	1.376	1.414	1.455	1.500	1.549
35	1.291	1.323	1.357	1.394	1.435	1.479	1.528
34	1.272	1.304	1.338	1.374	1.414	1.458	1.506
33	1.254	1.285	1.318	1.354	1.393	1.436	1.483
32	1.234	1.265	1.298	1.333	1.372	1.414	1.461
31	1.215	1.245	1.277	1.312	1.350	1.392	1.438

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	21	20	19	18	17	16	15
30	1.195	1.225	1.257	1.291	1.328	1.369	1.414
29	1.175	1.204	1.235	1.269	1.306	1.346	1.390
28	1.155	1.183	1.214	1.247	1.283	1.323	1.366
27	1.134	1.162	1.192	1.225	1.260	1.299	1.342
26	1.113	1.140	1.170	1.202	1.237	1.275	1.317
25	1.091	1.118	1.147	1.179	1.213	1.250	1.291
24	1.069	1.095	1.124	1.155	1.188	1.225	1.265
23	1.047	1.072	1.100	1.130	1.163	1.199	1.238
22	1.024	1.049	1.076	1.106	1.138	1.173	1.211
21	1.000	1.025	1.051	1.080	1.111	1.146	1.183
20	0.976	1.000	1.026	1.054	1.085	1.118	1.155
19	0.951	0.975	1.000	1.027	1.057	1.090	1.125
18	0.926	0.949	0.973	1.000	1.029	1.061	1.095
17	0.900	0.922	0.946	0.972	1.000	1.031	1.065
16	0.873	0.894	0.918	0.943	0.970	1.000	1.033
15	0.845	0.866	0.889	0.913	0.939	0.968	1.000
14	0.816	0.837	0.858	0.882	0.907	0.935	0.966
13	0.787	0.806	0.827	0.850	0.874	0.901	0.931
12	0.756	0.775	0.795	0.816	0.840	0.866	0.894
11	0.724	0.742	0.761	0.782	0.804	0.829	0.856
10	0.690	0.707	0.725	0.745	0.767	0.791	0.816
9	0.655	0.671	0.688	0.707	0.728	0.750	0.775
8	0.617	0.632	0.649	0.667	0.686	0.707	0.730
7	0.577	0.592	0.607	0.624	0.642	0.661	0.683
6	0.535	0.548	0.562	0.577	0.594	0.612	0.632
5	0.488	0.500	0.513	0.527	0.542	0.559	0.577
4	0.436	0.447	0.459	0.471	0.485	0.500	0.516
3	0.378	0.387	0.397	0.408	0.420	0.433	0.447
2	0.309	0.316	0.324	0.333	0.343	0.354	0.365
1	0.218	0.224	0.229	0.236	0.243	0.250	0.258

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	14	13	12	11	10	9	8
100	2.673	2.774	2.887	3.015	3.162	3.333	3.536
99	2.659	2.760	2.872	3.000	3.146	3.317	3.518
98	2.646	2.746	2.858	2.985	3.130	3.300	3.500
97	2.632	2.732	2.843	2.970	3.114	3.283	3.482
96	2.619	2.717	2.828	2.954	3.098	3.266	3.464
95	2.605	2.703	2.814	2.939	3.082	3.249	3.446
94	2.591	2.689	2.799	2.923	3.066	3.232	3.428
93	2.577	2.675	2.784	2.908	3.050	3.215	3.410
92	2.563	2.660	2.769	2.892	3.033	3.197	3.391
91	2.550	2.646	2.754	2.876	3.017	3.180	3.373
90	2.535	2.631	2.739	2.860	3.000	3.162	3.354
89	2.521	2.617	2.723	2.844	2.983	3.145	3.335
88	2.507	2.602	2.708	2.828	2.966	3.127	3.317
87	2.493	2.587	2.693	2.812	2.950	3.109	3.298
86	2.478	2.572	2.677	2.796	2.933	3.091	3.279
85	2.464	2.557	2.661	2.780	2.915	3.073	3.260
84	2.449	2.542	2.646	2.763	2.898	3.055	3.240
83	2.435	2.527	2.630	2.747	2.881	3.037	3.221
82	2.420	2.512	2.614	2.730	2.864	3.018	3.202
81	2.405	2.496	2.598	2.714	2.846	3.000	3.182
80	2.390	2.481	2.582	2.697	2.828	2.981	3.162
79	2.375	2.465	2.566	2.680	2.811	2.963	3.142
78	2.360	2.449	2.550	2.663	2.793	2.944	3.122
77	2.345	2.434	2.533	2.646	2.775	2.925	3.102
76	2.330	2.418	2.517	2.629	2.757	2.906	3.082
75	2.315	2.402	2.500	2.611	2.739	2.887	3.062
74	2.299	2.386	2.483	2.594	2.720	2.867	3.041
73	2.283	2.370	2.466	2.576	2.702	2.848	3.021
72	2.268	2.353	2.449	2.558	2.683	2.828	3.000
71	2.252	2.337	2.432	2.541	2.665	2.809	2.979
70	2.236	2.320	2.415	2.523	2.646	2.789	2.958
69	2.220	2.304	2.398	2.505	2.627	2.769	2.937
68	2.204	2.287	2.380	2.486	2.608	2.749	2.915
67	2.188	2.270	2.363	2.468	2.588	2.728	2.894
66	2.171	2.253	2.345	2.449	2.569	2.708	2.872

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	14	13	12	11	10	9	8
65	2.155	2.236	2.327	2.431	2.550	2.687	2.850
64	2.138	2.219	2.309	2.412	2.530	2.667	2.828
63	2.121	2.201	2.291	2.393	2.510	2.646	2.806
62	2.104	2.184	2.273	2.374	2.490	2.625	2.784
61	2.087	2.166	2.255	2.355	2.470	2.603	2.761
60	2.070	2.148	2.236	2.335	2.449	2.582	2.739
59	2.053	2.130	2.217	2.316	2.429	2.560	2.716
58	2.035	2.112	2.198	2.296	2.408	2.539	2.693
57	2.018	2.094	2.179	2.276	2.387	2.517	2.669
56	2.000	2.075	2.160	2.256	2.366	2.494	2.646
55	1.982	2.057	2.141	2.236	2.345	2.472	2.622
54	1.964	2.038	2.121	2.216	2.324	2.449	2.598
53	1.946	2.019	2.102	2.195	2.302	2.427	2.574
52	1.927	2.000	2.082	2.174	2.280	2.404	2.550
51	1.909	1.981	2.062	2.153	2.258	2.380	2.525
50	1.890	1.961	2.041	2.132	2.236	2.357	2.500
49	1.871	1.941	2.021	2.111	2.214	2.333	2.475
48	1.852	1.922	2.000	2.089	2.191	2.309	2.449
47	1.832	1.901	1.979	2.067	2.168	2.285	2.424
46	1.813	1.881	1.958	2.045	2.145	2.261	2.398
45	1.793	1.861	1.936	2.023	2.121	2.236	2.372
44	1.773	1.840	1.915	2.000	2.098	2.211	2.345
43	1.753	1.819	1.893	1.977	2.074	2.186	2.318
42	1.732	1.797	1.871	1.954	2.049	2.160	2.291
41	1.711	1.776	1.848	1.931	2.025	2.134	2.264
40	1.690	1.754	1.826	1.907	2.000	2.108	2.236
39	1.669	1.732	1.803	1.883	1.975	2.082	2.208
38	1.648	1.710	1.780	1.859	1.949	2.055	2.179
37	1.626	1.687	1.756	1.834	1.924	2.028	2.151
36	1.604	1.664	1.732	1.809	1.897	2.000	2.121
35	1.581	1.641	1.708	1.784	1.871	1.972	2.092
34	1.558	1.617	1.683	1.758	1.844	1.944	2.062
33	1.535	1.593	1.658	1.732	1.817	1.915	2.031
32	1.512	1.569	1.633	1.706	1.789	1.886	2.000
31	1.488	1.544	1.607	1.679	1.761	1.856	1.969

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	14	13	12	11	10	9	8
30	1.464	1.519	1.581	1.651	1.732	1.826	1.936
29	1.439	1.494	1.555	1.624	1.703	1.795	1.904
28	1.414	1.468	1.528	1.595	1.673	1.764	1.871
27	1.389	1.441	1.500	1.567	1.643	1.732	1.837
26	1.363	1.414	1.472	1.537	1.612	1.700	1.803
25	1.336	1.387	1.443	1.508	1.581	1.667	1.768
24	1.309	1.359	1.414	1.477	1.549	1.633	1.732
23	1.282	1.330	1.384	1.446	1.517	1.599	1.696
22	1.254	1.301	1.354	1.414	1.483	1.563	1.658
21	1.225	1.271	1.323	1.382	1.449	1.528	1.620
20	1.195	1.240	1.291	1.348	1.414	1.491	1.581
19	1.165	1.209	1.258	1.314	1.378	1.453	1.541
18	1.134	1.177	1.225	1.279	1.342	1.414	1.500
17	1.102	1.144	1.190	1.243	1.304	1.374	1.458
16	1.069	1.109	1.155	1.206	1.265	1.333	1.414
15	1.035	1.074	1.118	1.168	1.225	1.291	1.369
14	1.000	1.038	1.080	1.128	1.183	1.247	1.323
13	0.964	1.000	1.041	1.087	1.140	1.202	1.275
12	0.926	0.961	1.000	1.044	1.095	1.155	1.225
11	0.886	0.920	0.957	1.000	1.049	1.106	1.173
10	0.845	0.877	0.913	0.953	1.000	1.054	1.118
9	0.802	0.832	0.866	0.905	0.949	1.000	1.061
8	0.756	0.784	0.816	0.853	0.894	0.943	1.000
7	0.707	0.734	0.764	0.798	0.837	0.882	0.935
6	0.655	0.679	0.707	0.739	0.775	0.816	0.866
5	0.598	0.620	0.645	0.674	0.707	0.745	0.791
4	0.535	0.555	0.577	0.603	0.632	0.667	0.707
3	0.463	0.480	0.500	0.522	0.548	0.577	0.612
2	0.378	0.392	0.408	0.426	0.447	0.471	0.500
1	0.267	0.277	0.289	0.302	0.316	0.333	0.354

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	7	6	5	4	3	2	1
100	3.780	4.082	4.472	5.000	5.774	7.071	10.000
99	3.761	4.062	4.450	4.975	5.745	7.036	9.950
98	3.742	4.041	4.427	4.950	5.715	7.000	9.899
97	3.723	4.021	4.405	4.924	5.686	6.964	9.849
96	3.703	4.000	4.382	4.899	5.657	6.928	9.798
95	3.684	3.979	4.359	4.873	5.627	6.892	9.747
94	3.665	3.958	4.336	4.848	5.598	6.856	9.695
93	3.645	3.937	4.313	4.822	5.568	6.819	9.644
92	3.625	3.916	4.290	4.796	5.538	6.782	9.592
91	3.606	3.894	4.266	4.770	5.508	6.745	9.539
90	3.586	3.873	4.243	4.743	5.477	6.708	9.487
89	3.566	3.851	4.219	4.717	5.447	6.671	9.434
88	3.546	3.830	4.195	4.690	5.416	6.633	9.381
87	3.525	3.808	4.171	4.664	5.385	6.595	9.327
86	3.505	3.786	4.147	4.637	5.354	6.557	9.274
85	3.485	3.764	4.123	4.610	5.323	6.519	9.220
84	3.464	3.742	4.099	4.583	5.292	6.481	9.165
83	3.443	3.719	4.074	4.555	5.260	6.442	9.110
82	3.423	3.697	4.050	4.528	5.228	6.403	9.055
81	3.402	3.674	4.025	4.500	5.196	6.364	9.000
80	3.381	3.651	4.000	4.472	5.164	6.325	8.944
79	3.359	3.629	3.975	4.444	5.132	6.285	8.888
78	3.338	3.606	3.950	4.416	5.099	6.245	8.832
77	3.317	3.582	3.924	4.387	5.066	6.205	8.775
76	3.295	3.559	3.899	4.359	5.033	6.164	8.718
75	3.273	3.536	3.873	4.330	5.000	6.124	8.660
74	3.251	3.512	3.847	4.301	4.967	6.083	8.602
73	3.229	3.488	3.821	4.272	4.933	6.042	8.544
72	3.207	3.464	3.795	4.243	4.899	6.000	8.485
71	3.185	3.440	3.768	4.213	4.865	5.958	8.426
70	3.162	3.416	3.742	4.183	4.830	5.916	8.367
69	3.140	3.391	3.715	4.153	4.796	5.874	8.307
68	3.117	3.367	3.688	4.123	4.761	5.831	8.246
67	3.094	3.342	3.661	4.093	4.726	5.788	8.185
66	3.071	3.317	3.633	4.062	4.690	5.745	8.124

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	7	6	5	4	3	2	1
65	3.047	3.291	3.606	4.031	4.655	5.701	8.062
64	3.024	3.266	3.578	4.000	4.619	5.657	8.000
63	3.000	3.240	3.550	3.969	4.583	5.612	7.937
62	2.976	3.215	3.521	3.937	4.546	5.568	7.874
61	2.952	3.189	3.493	3.905	4.509	5.523	7.810
60	2.928	3.162	3.464	3.873	4.472	5.477	7.746
59	2.903	3.136	3.435	3.841	4.435	5.431	7.681
58	2.878	3.109	3.406	3.608	4.397	5.385	7.616
57	2.854	3.082	3.376	3.775	4.359	5.339	7.550
56	2.828	3.055	3.347	3.742	4.320	5.292	7.483
55	2.803	3.028	3.317	3.708	4.282	5.244	7.416
54	2.777	3.000	3.286	3.674	4.243	5.196	7.348
53	2.752	2.972	3.256	3.640	4.203	5.148	7.280
52	2.726	2.944	3.225	3.606	4.163	5.099	7.211
51	2.699	2.915	3.194	3.571	4.123	5.050	7.141
50	2.673	2.887	3.162	3.536	4.082	5.000	7.071
49	2.646	2.858	3.130	3.500	4.041	4.950	7.000
48	2.619	2.828	3.098	3.464	4.000	4.899	6.928
47	2.591	2.799	3.066	3.428	3.958	4.848	6.856
46	2.563	2.769	3.033	3.391	3.916	4.796	6.782
45	2.535	2.739	3.000	3.354	3.873	4.743	6.708
44	2.507	2.708	2.966	3.317	3.830	4.690	6.633
43	2.478	2.677	2.933	3.279	3.786	4.637	6.557
42	2.449	2.646	2.898	3.240	3.742	4.583	6.481
41	2.420	2.614	2.864	3.202	3.697	4.528	6.403
40	2.390	2.582	2.828	3.162	3.651	4.472	6.325
39	2.360	2.550	2.793	3.122	3.606	4.416	6.245
38	2.330	2.517	2.757	3.082	3.559	4.359	6.164
37	2.299	2.483	2.720	3.041	3.512	4.301	6.083
36	2.268	2.449	2.683	3.000	3.464	4.243	6.000
35	2.236	2.415	2.646	2.958	3.416	4.183	5.916
34	2.204	2.380	2.608	2.915	3.367	4.123	5.831
33	2.171	2.345	2.569	2.872	3.317	4.062	5.745
32	2.138	2.309	2.530	2.828	3.266	4.000	5.657
31	2.104	2.273	2.490	2.784	3.215	3.937	5.568

TABLE II (CONT.)

BETA FACTOR TABLE

WARP YARN NUMBERS	FILLING YARN NUMBERS						
	7	6	5	4	3	2	1
30	2.070	2.236	2.449	2.739	3.162	3.873	5.477
29	2.035	2.198	2.408	2.693	3.109	3.808	5.385
28	2.000	2.160	2.366	2.646	3.055	3.742	5.292
27	1.964	2.121	2.324	2.598	3.000	3.674	5.196
26	1.927	2.082	2.280	2.550	2.944	3.606	5.099
25	1.890	2.041	2.236	2.500	2.887	3.536	5.000
24	1.852	2.000	2.191	2.449	2.828	3.464	4.899
23	1.813	1.958	2.145	2.398	2.769	3.391	4.796
22	1.773	1.915	2.098	2.345	2.708	3.317	4.690
21	1.732	1.871	2.049	2.291	2.646	3.240	4.583
20	1.690	1.826	2.000	2.236	2.582	3.162	4.472
19	1.648	1.780	1.949	2.179	2.517	3.082	4.359
18	1.604	1.732	1.897	2.121	2.449	3.000	4.243
17	1.558	1.683	1.844	2.062	2.380	2.915	4.123
16	1.512	1.633	1.789	2.000	2.309	2.828	4.000
15	1.464	1.581	1.732	1.936	2.236	2.739	3.873
14	1.414	1.528	1.673	1.871	2.160	2.646	3.742
13	1.363	1.472	1.612	1.803	2.082	2.550	3.606
12	1.309	1.414	1.549	1.732	2.000	2.449	3.464
11	1.254	1.354	1.483	1.658	1.915	2.345	3.317
10	1.195	1.291	1.414	1.581	1.826	2.236	3.162
9	1.134	1.225	1.342	1.500	1.732	2.121	3.000
8	1.069	1.155	1.265	1.414	1.633	2.000	2.828
7	1.000	1.080	1.183	1.323	1.528	1.871	2.646
6	0.926	1.000	1.095	1.225	1.414	1.732	2.449
5	0.845	0.913	1.000	1.118	1.291	1.581	2.236
4	0.756	0.816	0.894	1.000	1.155	1.414	2.000
3	0.655	0.707	0.775	0.866	1.000	1.225	1.732
2	0.535	0.577	0.632	0.707	0.816	1.000	1.414
1	0.378	0.408	0.447	0.500	0.577	0.707	1.000

MAXIMUM WEAVABILITY TABLE

TABLE III. MAXIMUM FILLING COVER FACTOR IN TERMS OF WARP COVER FACTOR AND BETA FACTOR

This table provides solutions for the maximum weavability equations (3c)

In this table warp cover factors range from 10 (or 13, 15, 17) to 32, depending upon the weave.

Maximum filling cover factors range from 0.5 to 2.0

See sections in the body of the report for:

Organization of Table III (3c)

Types of problems (4a)

Solution of specific problems (5c)

Assumptions and limitations of tables (6)

TABLE III

MAXIMUM FILLING COVER FACTOR (K_2) IN TERMS OF WARP COVER FACTOR (K_1) AND BETA

A. PLAIN (TAFFETA) FABRICS

WARP COVER FACTOR (K_1)	BETA							
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
10								
11								
12								
13								25.245
14							20.401	18.805
15					22.806	19.240	17.451	17.311
16				19.356	17.747	16.342	16.398	16.617
17			17.503	15.507	15.330	15.529	15.854	16.222
18		16.332	14.366	14.340	14.658	15.079	15.527	15.973
19	16.049	13.258	13.326	13.754	14.269	14.798	15.314	15.806
20	12.160	12.257	12.769	13.403	14.019	14.610	15.167	15.688
21	11.105	11.739	12.462	13.174	13.848	14.477	15.061	15.603
22	10.579	11.424	12.244	13.015	13.726	14.381	14.984	15.539
23	10.262	11.214	12.209	12.900	13.636	14.309	14.925	15.490
24	10.053	11.066	11.983	12.814	13.568	14.254	14.879	15.453
25	9.905	10.957	11.900	12.749	13.515	14.211	14.844	15.423
26	9.797	10.875	11.836	12.698	13.474	14.177	14.816	15.399
27	9.715	10.812	11.786	12.657	13.441	14.149	14.793	15.380
28	9.651	10.762	11.746	12.625	13.414	14.127	14.775	15.365
29	9.602	10.722	11.714	12.599	13.393	14.109	14.759	15.352
30	9.562	10.690	11.688	12.577	13.375	14.094	14.747	15.341
31	9.529	10.664	11.666	12.559	13.360	14.082	14.736	15.332
32	9.502	10.642	11.649	12.545	13.348	14.072	14.728	15.325

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

A. PLAIN WOVEN FABRICS

WARP COVER FACTOR (K_1)	BETA							
	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
10							27.259	24.320
11				28.482	23.649	22.162	21.490	21.158
12		25.405	21.888	20.778	20.314	20.125	20.075	20.105
13	20.807	19.696	19.301	19.187	19.208	19.302	19.436	19.593
14	18.351	18.261	18.330	18.477	18.663	18.870	19.085	19.303
15	17.402	17.592	17.829	18.086	18.350	18.614	18.872	19.123
16	16.902	17.213	17.532	17.847	18.153	18.449	18.733	19.005
17	16.601	16.977	17.340	17.689	18.022	18.339	18.639	18.923
18	16.405	16.819	17.211	17.581	17.931	18.261	18.572	18.866
19	16.271	16.709	17.119	17.504	17.866	18.205	18.524	18.824
20	16.175	16.629	17.053	17.448	17.818	18.164	18.488	18.793
21	16.105	16.570	17.003	17.406	17.782	18.132	18.461	18.769
22	16.052	16.526	16.965	17.374	17.754	18.108	18.440	18.750
23	16.011	16.492	16.936	17.349	17.732	18.090	18.424	18.736
24	15.979	16.465	16.913	17.329	17.715	18.075	18.411	18.725
25	15.954	16.444	16.895	17.313	17.702	18.063	18.400	18.716
26	15.934	16.426	16.880	17.301	17.691	18.053	18.392	18.708
27	15.918	16.413	16.869	17.292	17.682	18.046	18.385	18.702
28	15.905	16.401	16.859	17.282	17.674	18.039	18.379	18.697
29	15.894	16.392	16.851	17.275	17.668	18.034	18.375	18.693
30	15.885	16.384	16.844	17.269	17.663	18.030	18.371	18.690
31	15.877	16.378	16.838	17.264	17.659	18.026	18.368	18.687
32	15.871	16.372	16.834	17.260	17.655	18.023	18.365	18.684

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

B. THREE-HARNESS WEAVE FABRICS

WARP COVER FACTOR (K_1)	BETA							
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
13								
14								
15								
16								
17							30.560	24.020
18						24.825	22.208	21.576
19					22.380	20.843	20.539	20.585
20				20.680	19.649	19.569	19.759	20.048
21			19.259	18.508	18.602	18.920	19.310	19.718
22		17.958	17.347	17.594	18.039	18.532	19.025	19.500
23	16.734	16.115	16.509	17.087	17.692	18.279	18.833	19.349
24	14.767	15.309	16.036	16.768	17.462	18.105	18.697	19.241
25	13.951	14.852	15.735	16.554	17.301	17.981	18.599	19.162
26	13.494	14.561	15.531	16.402	17.185	17.890	18.526	19.102
27	13.206	14.362	15.386	16.292	17.099	17.821	18.470	19.057
28	13.009	14.221	15.279	16.210	17.034	17.769	18.428	19.022
29	12.869	14.117	15.200	16.148	16.985	17.729	18.395	18.994
30	12.766	14.039	15.139	16.099	16.946	17.697	18.369	18.972
31	12.689	13.979	15.091	16.061	16.915	17.672	18.348	18.955
32	12.629	13.932	15.054	16.032	16.891	17.652	18.331	18.941

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

B. THREE-HARNESS HEAVY FABRICS

WARP COVER FACTOR (K_1)	BETA							
	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
13							31.839	28.057
14					28.785	26.377	25.401	24.918
15			27.473	25.254	24.412	24.030	23.864	23.812
16	27.250	24.445	23.554	23.203	23.085	23.085	23.151	23.254
17	22.791	22.388	22.207	22.325	22.435	22.583	22.751	22.928
18	21.442	21.590	21.651	21.845	22.059	22.281	22.504	22.723
19	20.768	21.011	21.277	21.551	21.833	22.086	22.341	22.586
20	20.374	20.728	21.037	21.350	21.664	21.954	22.230	22.491
21	20.121	20.502	20.877	21.226	21.554	21.862	22.151	22.424
22	19.949	20.378	20.764	21.137	21.475	21.795	22.094	22.374
23	19.828	20.272	20.683	21.064	21.417	21.746	22.052	22.338
24	19.740	20.200	20.623	21.013	21.374	21.709	22.020	22.310
25	19.675	20.144	20.577	20.975	21.341	21.681	21.996	22.289
26	19.626	20.105	20.543	20.945	21.316	21.659	21.977	22.273
27	19.589	20.073	20.517	20.923	21.297	21.643	21.963	22.260
28	19.559	20.048	20.495	20.905	21.283	21.629	21.951	22.250
29	19.536	20.029	20.479	20.891	21.269	21.619	21.942	22.242
30	19.518	20.014	20.467	20.879	21.260	21.611	21.935	22.236
31	19.504	20.001	20.455	20.870	21.252	21.604	21.929	22.231
32	19.492	19.991	20.447	20.863	21.246	21.598	21.924	22.227

TABLE III (CONT.)

MAXIMUM FILLET [illegible] (K_2) IN
TERMS OF [illegible] FACTOR (K_1) AND BETA

3. FOUR HARMONIC COSINE FABRICS

HARMONIC COSINE FACTOR (K_1)	BETA							
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
15								
16								
17								
18								
19								30.705
20							26.644	24.919
21					30.819	24.597	23.667	23.460
22				24.190	23.074	22.569	22.572	22.751
23			23.847	21.730	21.513	21.690	21.994	22.339
24		[illegible]	[illegible]	20.431	20.771	21.199	21.643	22.076
25	20.566	19.042	19.271	19.779	20.340	20.892	21.414	21.899
26	17.5[illegible]	17.[illegible]	18.674	19.390	20.065	20.688	21.257	21.775
27	16.494	17.[illegible]	18.317	19.138	19.879	20.546	21.145	21.686
28	15.953	17.[illegible]	18.081	18.966	19.749	20.444	21.065	21.621
29	15.[illegible]	16.955	17.919	18.844	19.655	20.370	21.005	21.573
30	15.[illegible]	16.[illegible]	17.803	18.755	19.585	20.315	20.961	21.536
31	15.25[illegible]	16.[illegible]	17.719	18.[illegible]	19.533	20.273	20.927	21.508
32	15.14[illegible]	16.[illegible]	17.[illegible]	18.641	19.494	20.241	20.901	21.487

TABLE III (CONT.)

MINIMUM FILLING COVER FACTORS (K_2) IN
TERMS OF GAP COVER FACTOR AND BETA

C. FOUR-PARTS [illegible] PANELS

GAP COVER FACTOR (K_1)	BETA							
	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
15								34.215
16						31.235	29.959	27.989
17				29.929	27.841	27.011	26.613	26.418
18		29.498	27.079	26.243	25.883	25.736	25.701	25.728
19	26.571	25.537	25.157	25.035	25.038	25.107	25.213	25.339
20	24.413	24.283	24.314	24.424	24.573	24.741	24.919	25.098
21	23.501	23.450	23.846	24.064	24.288	24.511	24.729	24.939
22	23.000	23.276	23.557	23.834	24.101	24.357	24.600	24.831
23	22.691	23.036	23.344	23.679	23.974	24.251	24.511	24.755
24	22.488	22.874	23.235	23.572	23.884	24.176	24.447	24.700
25	22.348	22.741	23.143	23.495	23.820	24.121	24.400	24.660
26	22.248	22.680	23.076	23.439	23.773	24.081	24.366	24.630
27	22.176	22.621	23.026	23.397	23.738	24.051	24.340	24.608
28	22.123	22.577	22.989	23.364	23.711	24.028	24.321	24.591
29	22.083	22.544	22.962	23.342	23.691	24.011	24.306	24.578
30	22.053	22.518	22.940	23.324	23.675	23.998	24.294	24.568
31	22.030	22.499	22.924	23.310	23.664	23.987	24.285	24.560
32	22.012	22.484	22.911	23.300	23.654	23.979	24.278	24.554

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

D. FIVE-HARNESS SATIN TWILL FABRICS

WARP COVER FACTOR (K_1)	BETA							
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
17								
18								
19								
20								
21								31.083
22							27.735	26.392
23					29.449	25.901	25.224	25.096
24				26.290	24.474	24.180	24.252	24.456
25			24.237	23.173	23.158	23.404	23.732	24.081
26		22.455	21.863	22.094	22.509	22.965	23.416	23.843
27	20.669	20.453	20.934	21.532	22.130	22.592	23.210	23.684
28	18.853	19.619	20.432	21.195	21.887	22.510	23.070	23.574
29	18.078	19.160	20.124	20.976	21.725	22.386	22.972	23.495
30	17.649	18.876	19.925	20.838	21.612	22.298	22.902	23.439
31	17.382	18.689	19.788	20.724	21.532	22.235	22.852	23.398
32	17.206	18.561	19.692	20.651	21.474	22.188	22.815	23.367

TABLE III (CONT.)

MINIMUM FILLET [illegible] (K2) IN
[illegible]

D. [illegible]

JARP CONTOUR FACTOR	BETA							
(K_1)	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
17								33.993
18						31.918	29.969	29.147
19				30.869	29.106	28.388	28.041	27.871
20		30.428	28.41[illegible]	27.694	27.392	27.254	27.228	27.255
21	27.892	27.027	26.707	[illegible]	[illegible]	[illegible]	26.785	26.902
22	25.990	25.898	25.84[illegible]	26.051	26.194	26.352	26.517	26.682
23	25.166	25.321	25.514	25.72[illegible]	[illegible]	[illegible]	26.343	26.537
24	24.709	24.979	25.249	25.511	25.76[illegible]	[illegible]	26.225	26.438
25	24.428	24.760	25.074	25.370	25.646	25.903	26.144	26.369
26	24.243	24.613	24.956	25.272	25.565	25.835	26.086	26.319
27	24.116	24.511	24.872	25.203	25.507	25.786	26.045	26.293
28	24.028	24.439	24.813	25.153	25.465	25.751	26.014	26.267
29	23.964	24.387	24.769	25.117	25.434	25.725	25.992	26.238
30	23.918	24.349	24.738	25.090	25.411	25.705	25.975	26.223
31	23.885	24.321	24.714	25.070	25.394	25.691	25.962	26.212
32	23.859	24.300	24.696	25.055	25.382	25.680	25.953	26.204

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

E. OXFORD FABRICS

WARP COVER FACTOR (K_1)	BETA							
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
15								
16								
17								
18								
19								26.913
20							21.232	19.119
21					27.088	18.743	17.683	17.452
22				20.661	17.028	16.483	16.486	16.678
23			17.884	15.602	15.379	15.560	15.875	16.238
24		15.969	14.280	14.296	14.630	15.059	15.512	15.962
25	14.430	12.969	13.183	13.664	14.206	14.751	15.277	15.777
26	11.603	12.002	12.632	13.295	13.939	14.548	15.118	15.649
27	10.713	11.508	12.305	13.059	13.760	14.408	15.005	15.557
28	10.260	11.212	12.093	12.899	13.635	14.308	14.924	15.490
29	9.988	11.019	11.948	12.786	13.545	14.235	14.864	15.440
30	9.811	10.887	11.845	12.705	13.480	14.181	14.820	15.403
31	9.690	10.792	11.770	12.645	13.430	14.141	14.786	15.374
32	9.603	10.723	11.715	12.599	13.393	14.110	14.760	15.352

TABLE III (CONT.)

MAXIMUM FILLING COVER FACTORS (K_2) IN TERMS OF WARP COVER FACTOR AND BETA

E. OXFORD FABRICS

WARP COVER FACTOR (K_1)	BETA							
	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
15								32.883
16						27.738	24.195	22.860
17				25.741	22.796	21.703	21.192	20.946
18		25.094	21.791	20.726	20.281	20.101	20.057	20.091
19	21.139	19.859	19.402	19.257	19.260	19.342	19.469	19.620
20	18.530	18.380	18.416	18.542	18.715	18.912	19.120	19.332
21	17.498	17.663	17.884	18.130	18.386	18.643	18.897	19.144
22	16.948	17.249	17.560	17.870	18.173	18.465	18.747	19.016
23	16.614	16.987	17.349	17.696	18.028	18.344	18.643	18.927
24	16.396	16.811	17.205	17.576	17.927	18.257	18.569	18.863
25	16.248	16.689	17.103	17.491	17.854	18.195	18.515	18.816
26	16.143	16.602	17.030	17.429	17.801	18.149	18.476	18.782
27	16.067	16.538	16.976	17.383	17.762	18.115	18.446	18.756
28	16.011	16.491	16.936	17.348	17.732	18.090	18.423	18.736
29	15.969	16.456	16.906	17.332	17.709	18.070	18.406	18.721
30	15.937	16.429	16.883	17.302	17.692	18.055	18.393	18.709
31	15.913	16.408	16.865	17.287	17.679	18.043	18.383	18.700
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